MANUFACTURERS RECORD

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A Publication for Executives

Volume 114 **AUGUST, 1945** **Number 8**

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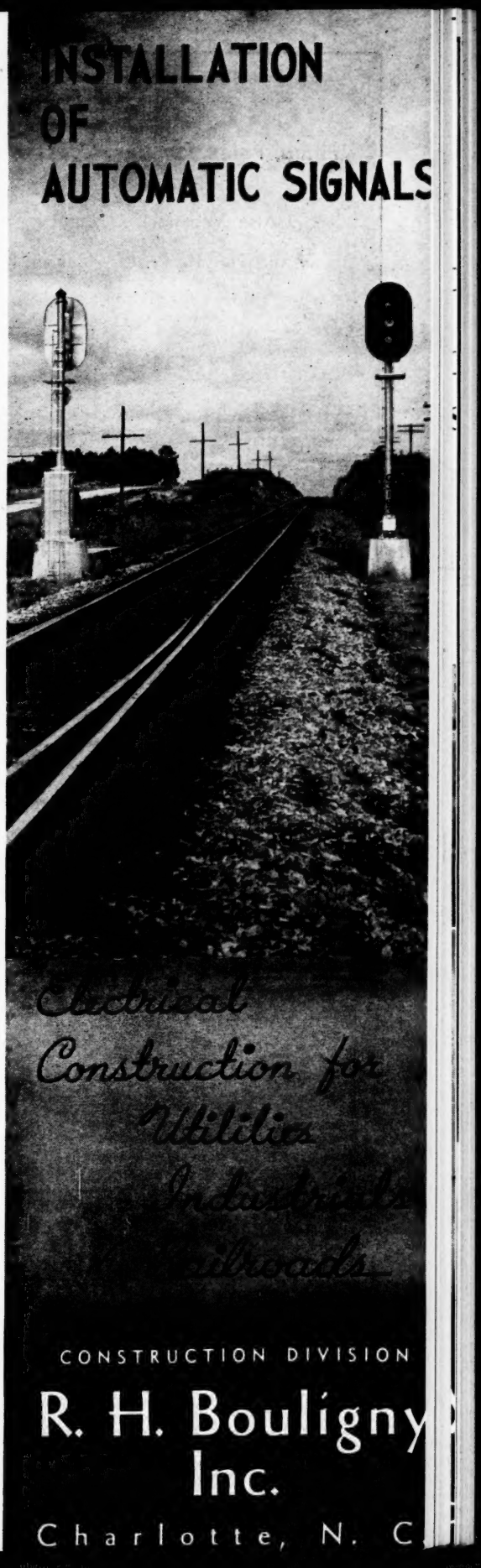

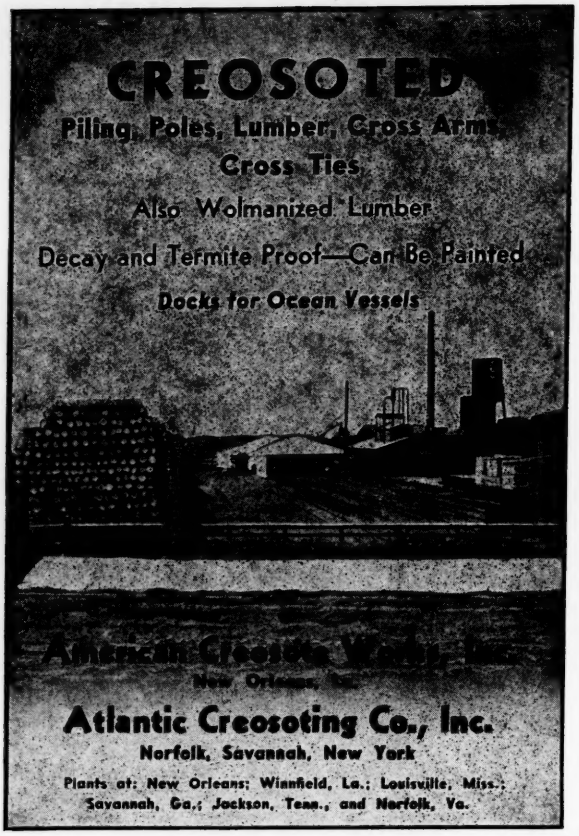
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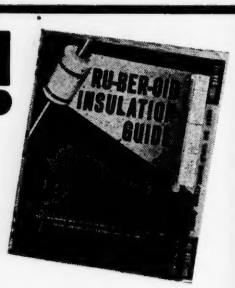

• Here's a handy insulation reference guide that puts facts at your finger tips. Makes it easier for factory engineers and purchasing agents to select the right insulation materials and pipe coverings to meet various temperature conditions. Contains such useful information as temperature tables, recommended thicknesses, heat loss charts, conductivity tables and other helpful technical data. Your copy will be sent promptly on request.

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Address_____
City_____ State_____

Little Grains of Sand

"Little drops of water, little grains of sand,
Make the mighty ocean, and the pleasant land."

A balanced budget is the bulwark of the public credit. It is the simple, direct way of meeting governmental costs. The balanced budget will not affect prices; it will not intensify a depression but will hasten its passing; it will preserve control, by the people, of their government and of its fiscal program.

The alternative is a resort to borrowing, which tends to become habitual because a deficit is the kind of emergency that never ends. It means burdening the people in a haphazard, unpredictable way rather than by the orderly, reviewable procedures of taxation. It is a confession of weakness, an evidence of fear or unwillingness to face unpleasant facts. Fiscal preparedness is as essential as any other form of defense, and it is essential also to every other form of preparedness.

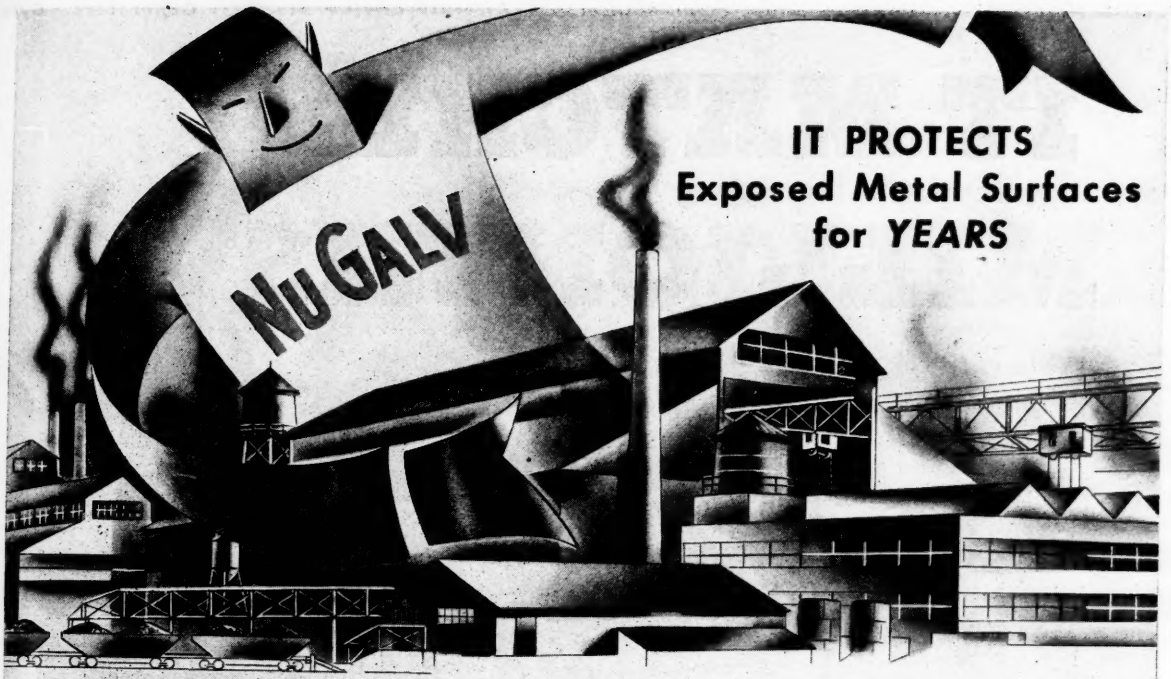
Competition by the public treasury is not the enemy alone of the particular industry which is being attacked at the moment, but of all private enterprise.

Payrolls in the Southern states, at least that part of them subject to the Social Security tax according to figures just published by the Bureau of Internal Revenue for the fiscal year ending June 30, increased $725,028,914. During the same period the gain for the rest of the country was $1,344,060,130. Thus the South showed a gain in the amount paid to workers in industry of more than 50 per cent of the amount paid by all the rest of the country.

Is the pressure group here to stay? Opposing it are relatively few individuals and organizations with the acumen to understand what goes on when the state legislature meets to plan the spending of the taxpayer's money. But the support given by the public and the press to the forces fighting waste will be quickly reflected in the annual tax bill. Keeping the bright light of publicity on the number of proposed spending laws is an effective way of informing the people on just what goes on at the state capitol.

If the Congress should set up in advance a mechanism for providing full employment through made-work in case private industry fails to attain the result, they would but create a tail to wag the industrial dog to death. Memories are still clear as to how the shovel-leaning brigades and the sewing-room parties made it impossible for homes, farms, and other small businesses to obtain employees. So long as a worker, who is able to earn $25 per week in private industry, is able to take his choice, instead, of a $25 dole or a $45 slap-happy government job, then private industry has two strikes against it to start with.

(*Continued on page* 12)



IT PROTECTS Exposed Metal Surfaces for *YEARS*

PROTECTION—not for months only, as with ordinary paints. An end to costly and half-satisfactory paint-jobs, time and again. Instead, the best kind of coating known to science . . . lasting for years without partial failure or blemish.

NUGALV

The Protective Zinc Paint for Metals

Modern science offers, in NuGalv, a liquid "re-galvanizer" and rust inhibitor that renews metal surfaces 5 to 7 years with a single coat. Each gallon contains 15 pounds of pure zinc dust. It is so compounded that it does three important things: It sticks, as if welded to the metal, zinc-to-zinc; it stretches and contracts (rubber-like), as the metal yields to heat and cold, or vibration, and for this reason does not check or peel; and while it protects as a film, it also protects with a restraining, "galvanic" action against rust.

Even when abrasion has exposed small areas, NuGalv keeps them from rusting. Two coats prolong this protection to about 12 years. A gallon is good for as much as 800 square feet. It has the finest of spreading qualities. It sprays equally well, with standard equipment. NuGalv saves the metal surfaces; and saves in maintenance.

Used on ROOFS AND BUILDINGS • WATER TANKS • SMOKE STACKS STRUCTURAL STEEL • BOILERS • TRANSFORMERS • PUMPS • CONVEYORS • PIPE AND PIPE-JOINTS • PRODUCT FINISHING.

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3. NuGalv hides the darkest weathering.
4. One coat lasts up to 7 years, two coats up to 12 years.
5. Finest spreading qualities; gallon covers up to 800 sq. ft.
6. Attractive, lasting Battleship Gray finish.

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Please send me your booklet covering the full story on NuGalv.

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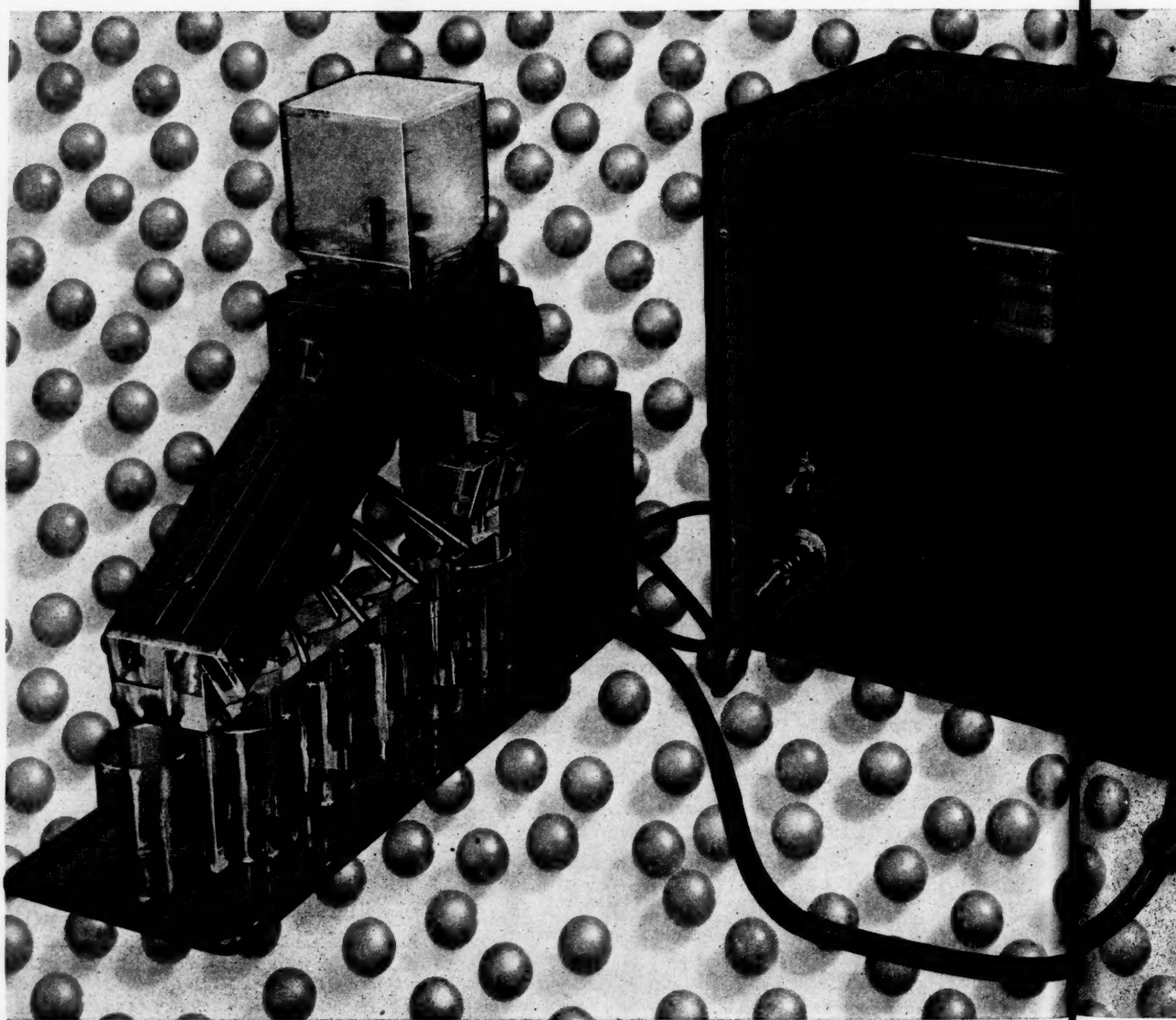
to make better be



r bearings!

FROM the days of the first wheel on up through the ages, increasingly better and more accurate bearings have made it possible for man to step up his rate of travel from a plodding mile per hour to nearly a thousand times that speed today.

The mechanisms that now hurl a human being through the air at twelve miles a minute often call for bearings that must run at 400 *revolutions a second and more!*

To provide perfectly sized and perfectly matched balls for such precise bearings and to sort them *fast enough* to keep pace with the demands of war, the Electronics Department at Jack & Heintz developed the Automatic Ball Gauge.

IT'S DONE WITH ELECTRONICS!

When fed commercial balls—already graded to a tolerance of 1/20,000 inch—this machine sorts them into groups *five times more accurate!* As many as ten size selections can be made, each group being separated by only *ten millionths of an inch,* and it's done *fast* and *automatically.* The operator needs only to fill the plexiglass hopper and remove the sorted balls. One operator handles four machines easily; these four machines sort more balls and do it far more accurately than 32 skilled operators using conventional measuring equipment.

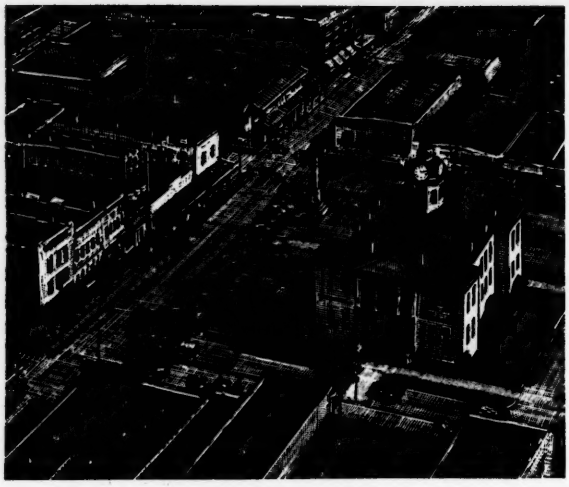
HOW CAN JACK & HEINTZ HELP YOU?

The automatic ball sorter is just one example of how Jack & Heintz engineers have solved a great many such problems. If you are developing new designs or are concerned with post-war production problems, this is the kind of engineering skill and know-how that is available to help you.

Buy More War Bonds and Stamps

JACK & HEINTZ
Incorporated

XUM



TROY, ALABAMA

Now Has a Layne Automatic Water System

City Officials of Troy, Alabama are in high spirits these days. Where all others have failed, Layne has just completed a water system WITHIN THE CITY LIMITS that produces over 1,000,000 gallons daily. Furthermore this new system is equipped with the latest automatic control device which eliminates manual starting and stopping.

Prior to the completion of this new Layne System, all water for the city of Troy was obtained from wells located some three miles away. The success achieved by Layne will now enable the city to install other wells and thus abandon the distantly located and expensive to operate system.

Here again is proof that Layne's experience, knowledge and specialization always pays handsome dividends. Building this well was no easy task. It was drilled through rock strata from one to sixteen feet in thickness. Some five-hundred bags of cement were used to seal off all but the desired water bearing sand formations.

Layne is now almost entirely engaged in civilian Well Water System building—and is ready to serve you. Write, wire or phone for further facts, catalogs, bulletins, etc. LAYNE & BOWLER, INC. General Offices, Memphis 8, Tennessee.

***LAYNE PUMPS**—fulfill every need for producing large quantities of water at low cost from wells, streams, mines or reservoirs. Send for literature.*

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LAYNE

WELL WATER SYSTEMS

VERTICAL TURBINE PUMPS

(*Continued from page* 8)

Factories, farms and mines cannot employ all the millions of persons in the armed forces and war production, but this need not cause despair, for the first essential of a healthy post-war economy is that workers be properly distributed—a larger proportion in service industries than in factories.

Service industries must be given every opportunity. They include the wholesale and retail trade, transportation, communications, utilities, farming, bankers, brokers, insurance people, office workers, hotel keepers, domestic servants, teachers, publishers, newspapers, advertising, radio, amusements, all professional people, etc.

Lincoln spoke in eloquent and simple terms which the lowliest citizen could understand, and to the logic of which he could respond. This is what we need today—we must tell our people in plain language why the American system of life at its worst is better than any other system at its best. We must do everything in our power to bring this truth home to all Americans.

BERNARD ZERBE, *Editor*
American Druggist.

"The economy of the South has traditionally been one of raw materials, a tradition from which the South for many years now has been endeavoring to free itself. It is a fact well-known by economists that any nation or large region on a raw materials economy never achieves the wealth and prosperity that is achieved by an industrial economy. While raw materials are necessary,—and the South leads all regions of the nation in the production of raw materials,—it is in the manufacture of these materials into finished goods that the greatest wealth accrues. While the illustration which we have often had pointed out to us that a ton of steel in Alabama worth $75 becomes a ton of watch springs in Connecticut worth $120,000 is perhaps an extreme case, yet it bears out the point."

The sixteen Southern States, from Texas to Maryland, contain one-third the land and one-third the people of the nation. In breaking down the industrial plant expansion of the last four years, therefore, it is interesting to find that only 2,216, or 16%, of the wartime plants are located in these states.

THURMAN SENSING.

During a discussion on the FEPC Bill, Representative Carter Manasco of Alabama made the following statement: "There is not a member of Congress who would stand by for one moment and permit an executive agency to force him to employ secretarial and clerical help against his will. Why should not we give our manufacturers the same privilege? Why should not we give our educational institutions the same privilege? Why should not we give our eleemosynary institutions the same privilege? Why should not we give our labor unions the same privilege?"

(*Continued on page* 16)

DESIGNED SPECIFICALLY FOR AC WELDING of CAST IRON

Announcing a New

P & H "HARCAST"

Entirely New...Entirely Different!

● Perhaps you've wondered why such an all-around electrode for welding cast iron was not available. So did P&H research engineers. And they went to work on it!

It took nearly three years. But now it's ready ...ready to end your worries about weld cracks, poor penetration, excess porosity or pulling away at the fusion zone. It produces sound, dense welds with a tensile strength of 60,000 lbs. p.s.i.— approximately twice that of a good grade of cast iron. And it fuses well with mild or medium carbon steels for joining to cast iron.

Can Be Used at Low Amperages

Low amperage welding with "Harcast" minimizes the dilution at the fusion zone, improves machining qualities. It's easy to use, too, for single or multiple pass work. But its operating characteristics are entirely different.

An All-position Electrode — for Both AC and DC Welding

You can use P&H "Harcast" in all positions; downhand, vertical or overhead. Although designed primarily for AC welding, it works equally well on DC. But why not get full information? Try it yourself and see the difference! Write for literature.

A COMPLETE ARC WELDING SERVICE

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PLATES and SHEETS

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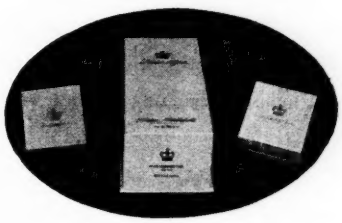
PACKAGES *become* OBSOLETE *Too!*

The great advances, which have been made in packaging methods and materials, have made many a leading 1940 package as obsolete as a covered wagon.

Now is a good time to call in OLD DOMINION'S creative and engineering staffs to survey your packaging set-up and to make recommendations for changes.



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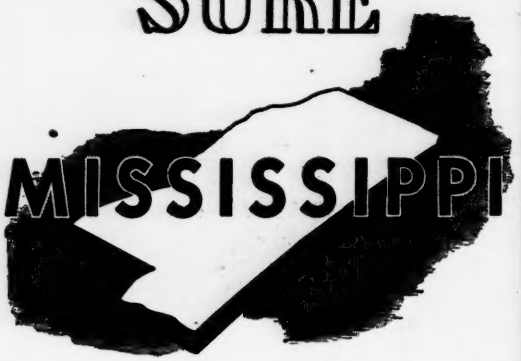
SURE



has the *usual* list of Resources, Materials and Advantages

PLUS

citizens who have faith enough in their own communities to invest *their* money in a building for *your* industry.

IF YOU PLAN a new or branch plant, be sure to investigate the sound advantages of Mississippi's Balance Agriculture With Industry plan. Mississippians are ready to erect modern industrial buildings to meet your specifications.

Build your new plant in Mississippi, where local people have faith enough in their own communities to invest their money in manufacturing plants for private industries. Your inquiry will be held in strict confidence.

AMERICA'S STATE MISSISSIPPI OF OPPORTUNITY

MISSISSIPPI

AGRICULTURAL AND INDUSTRIAL BOARD

NEW CAPITOL BUILDING • JACKSON, MISSISSIPPI

(*Continued from page* 12)

This could be a true story. A rural letter carrier is said to have found the following note in a mail box on his route.

"Dear Mailman:—Attached is a check for $5 for which will you kindly get me a stamp to make our flivver a legal means of transportation for the purpose of going to the rationing board for a permit to get gas to have our machine inspected so that we may visit the ration board to get authority to buy a new tire so that our car may be in suitable condition to go to pay our withholding tax."

The fact that the TVA now has more than 40,000 employees on the public payroll is one that receives very little publicity from that Authority. Nor is it generally known that this same Authority has submerged or is submerging permanently 375,000 acres of agricultural land in the Tennessee valley. This is approximately six-sevenths of all the land in the valley that ever was reached by flood water. This six-sevenths is now submerged forever.

The plain, unadulterated bunk that is being peddled today by so-called responsible men in government to the effect that Congress must pass legislation that will provide jobs for all, is simply sickening. Congress might pass an emergency measure that would employ everybody for a few months or a year or two, but neither Congress nor the government has a dime to employ anybody until it first takes it away from the people in taxes.

Neshoba Democrat
Philadelphia, Miss.

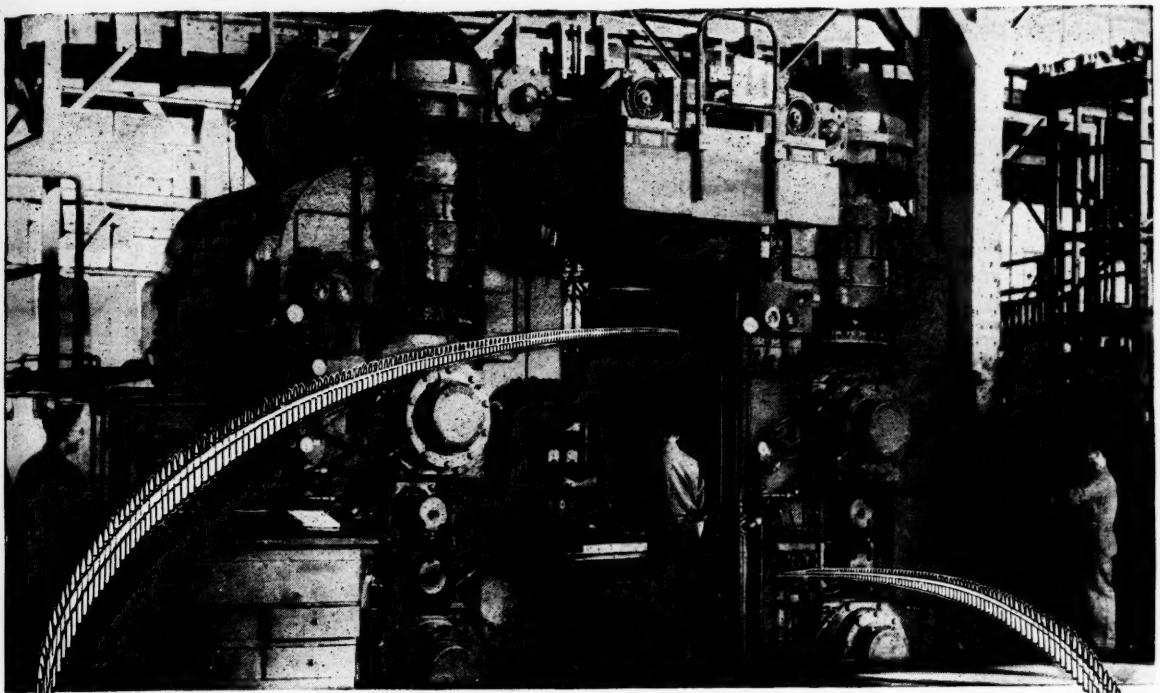
"The real job in achieving a swift transition will fall upon industry, labor and agriculture—on the businesses, farmers and workers who comprise our economy. Though the government can facilitate reconversion, though it can take positive measures to support income or prevent inflation, attainment of a high level of production and consumption depends on the initiative, resourcefulness, imagination and know-how of all of us."

Vinson Report.

A long line of court decisions, extending down to the very advent of the New Deal, plainly held that "manufacture is not commerce."

It was contemplated that Interstate commerce should mean exactly what the language clearly implies, which is to say that only actual transportation of goods across state lines was interstate commerce.

How far we have departed from this established interpretation was illustrated a few days ago when Judge Lovett, of the United States District Court of Savannah, handed down a ruling to the effect that a janitor in a Georgia bank was engaged in interstate commerce, because, forsooth, he sometimes carried letters to the post office which thereafter entered into interstate transit.



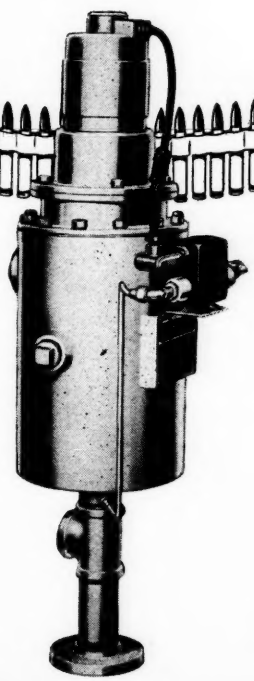
HOW BOWSER HELPS **WESTERN BRASS MILLS** PRODUCE

Bullets by the Billion

More than a billion pounds of brass—every pound of which has been used in the production of an endless stream of cartridges for the United Nations—is the remarkable contribution to the war effort made by Western Brass Mills, Division of Olin Industries, Inc.

This staggering figure represents a tonnage equivalent to a fleet of eleven modern battleships or aircraft carriers of 45,000 tons each!

A Bowser Lubrication-Filtration system has helped to keep this giant 4-high tandem brass mill running at full speed. Oil that is continuously filtered is pressure-circulated to every moving part, thus preventing bearing failure which would mean a costly shut down and the loss of millions of urgently needed cartridges.



Your liquid control problem may be different—but somewhere in your plant a better job can be done by a Bowser Meter, Filter, Proportioner, Lubricating System, Oil Conditioner, Pump or one of the many other Bowser products for the control of liquids. For complete information write BOWSER, INC., Dept. 24-H, Fort Wayne 2, Indiana.

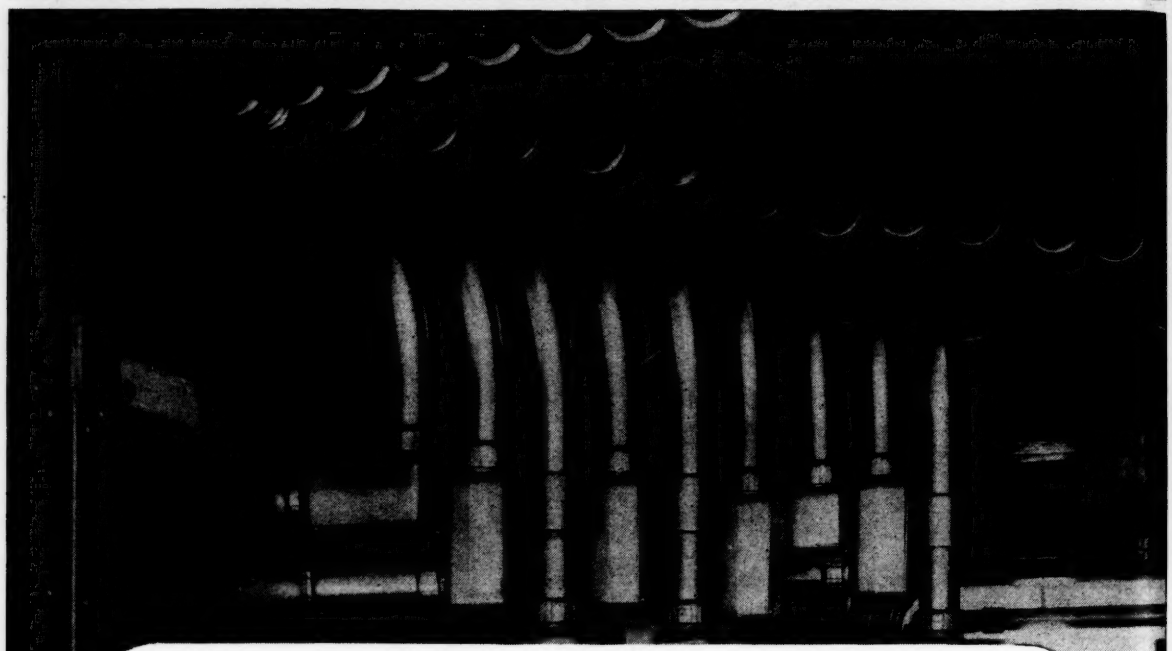
Not only has Bowser's war production earned the Army-Navy E . . . Bowser equipment has helped earn it for scores of other companies.

BOWSER

SINCE 1885

THE NAME THAT MEANS EXACT CONTROL OF LIQUIDS

FOR SAFETY'S SAKE . . . USE CONDUIT *(Full Weight Rigid Steel)*



Smart Post-War Planning Demands SAFE Wiring Methods

A double responsibility confronts the electrical industry:

1. The obligation to replace makeshift, unsafe wiring systems, installed according to "must do" emergency ideas, forced on industry by war time shortages and regulations.
2. The duty to install only assuredly safe wiring systems in all new post V-Day construction.

Remember this: The only wiring system approved by the National Electrical Code as moisture, vapor, dust and explosion proof in hazardous locations is a standard-threaded rigid conduit.

With standard-threaded rigid steel conduit, such as Youngstown's Buckeye, again available through distributors, there is no reason not to provide dependable wiring protection.

Wherever there is moisture, or vapor, or excessive vibration, or possibility of corrosion, or accumulating dust and dirt, or danger of crushing or other mechanical injury, specify and use Youngstown Buckeye Conduit.

BUCKEYE YOUNGSTOWN CONDUIT

YOUNGSTOWN

THE YOUNGSTOWN SHEET AND TUBE COMPANY

YOUNGSTOWN, OHIO

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SLAYSMAN GEARS

make the wheels GO

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Power transmission is our business. All items of transmission, with Gears and Sprockets the leader, including "V" Belt Drives, Chain Drives, Flexible Couplings, Ball and Roller Bearings, Bronze, Plastic and Lignum-vitae Bearings can be furnished. These either being made by us, or obtained from National Manufacturers. Complete machine shop facilities are maintained by us for the custom-made or made-to-order sizes.

GEARS: Spurs, Bevels, Worm Combinations, Spline Shafts and Gear Tooth Specialties, from any metals, to close tolerances can be produced to specifications of interchangeability.

SPROCKETS: Roller Chain, Silent Chain, Spud Chain and Ladder Chain Sprockets made to specifications from various metals, including Steels and Alloy Steels, Cast Iron, Bronze, Stainless and Duraluminum.

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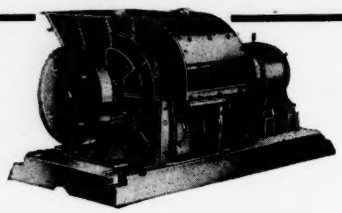
FOR REDUCING SOLIDS... IT DOESN'T COST - IT PAYS TO USE AMERICAN CRUSHERS



There is an American Crusher to fit your needs. You can be sure of high output, continuous performance and low operating cost.

- Rolling Ring Crushers
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- Laboratory Crushers
- Pulverizers
- Shredders
- Knife Choppers

Write us about your crusher needs—information and literature sent upon request.

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1905 **Strand** 1945

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OUR FORTIETH YEAR

High Quality Only. One hundred twenty-five types and sizes.

Type MY4—¼ H.P.

⅛ to 3 H. P.
Vertical and Horizontal

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One machine for many classes of work by securing various attachments to fit the job.

Type M7A—1½ H.P.

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SEND FOR OUR NEW CATALOG No. 29

N. A. STRAND & COMPANY

5001 NO. WOLCOTT AVE. CHICAGO 40, ILL., U.S.A.

Railway Smear Attempt Charged

Declaring that "the railroads have made too good a record and won a too favorable public opinion during the war to suit the planners of national socialism," the magazine *Railway Age* charges that the passenger service situation created by the return of troops from Europe has been "seized upon as a long-awaited opportunity to smear" the carriers.

"There is more than a faint odor of Machiavellianism in the recent extensive press-agenting of hardships alleged to have been inflicted by the railroads on returning troops," the magazine adds. "The railroads, the Pullman Company, the Office of Defense Transportation, and the officers of the Army's transportation corps have exerted themselves to the utmost since the early days of the war to provide the maximum of efficiency and comfort for troop movements, and there is no evidence that they have suddenly lost their interest and skill in this work. Meantime, others more influential in the government have done their planning with no regard to the necessities or even convenience of domestic transportation.

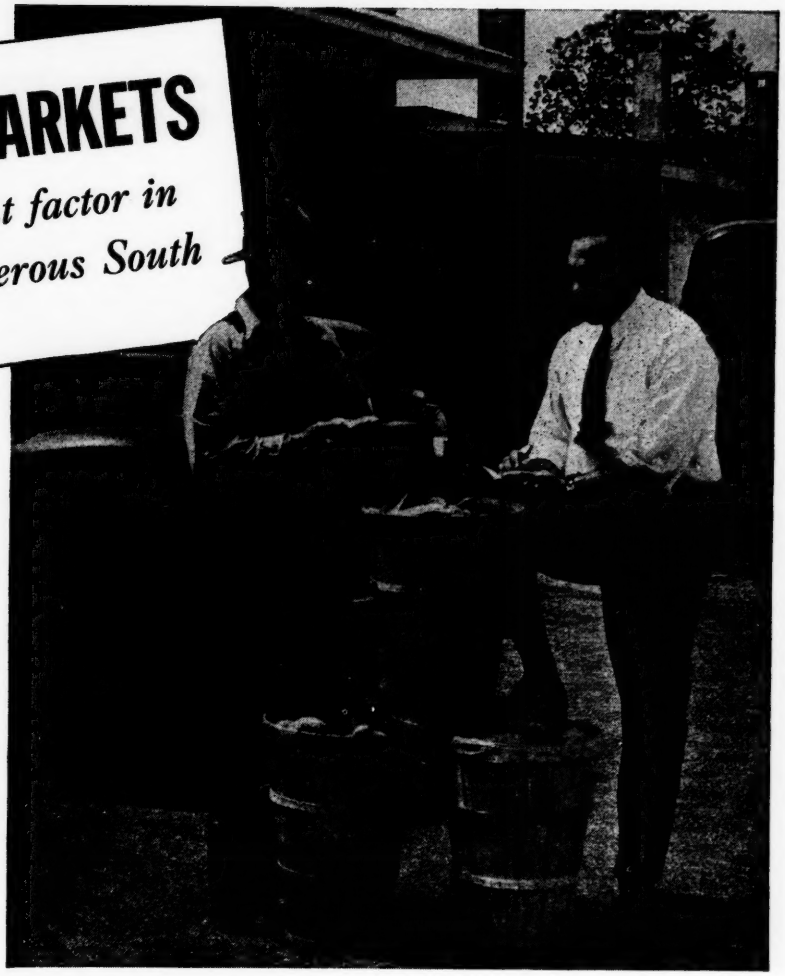
"*Railway Age,* had foreseen and forecasted for years, not the possibility, but the certainty of serious congestion. It was certain because, first, a large decline of passenger equipment occurred during the depression; second, the government during the war has been refusing to let the railroads acquire additional passenger equipment; third, an enormous increase in travel by rail was occuring, and, fourth, a huge transfer of troops from Europe to the Pacific area was sure to be made following termination of the war in Europe.

"The War Department has known all along just how many sleeping and other passenger cars are available on American railroads, and just how many arriving troops could be accommodated by this number of cars without disrupting regular travel. The return of troops from Europe is an event that the Army has had over three years to prepare for, and the government has had control of the manpower and the materials necessary for such preparation. * * *

"It is significant that the bureaucracy is forcing the railroads to withdraw Pullman service at the very time when the airlines are being awarded additional planes, enabling them to expand their commercial traffic. The government, that is to say, is driving the railroads' steady customers to the airlines. And just what part of this emergency movement of troops are the railroads' competitors—the long-haul buses and the airlines—being called upon to handle? How many overnight planes have been pulled off their regular runs to serve the 'redeployment' program, and how many overnight buses have been diverted from their regular runs for this purpose? The answer is that only the railroads among all the agencies of transportation are expected to have the 'stand-by' facilities to deal with such emergencies as this, and are criticized for not having them."

CENTRAL MARKETS

. . . an important factor in building a prosperous South



WHERE PERMANENT, easily accessible central markets have been established, they have already proved of great practical help to the southern farmer. They have increased the farmer's cash returns and made it possible for him to change from "one-crop" farming to modern, more profitable, diversified operations. As the South depends on the land for its wealth, all business has in turn benefited from this increased purchasing power.

Central markets give the farmer a definite and reliable point of contact with buyers, saving him the time and trouble of arranging personal, individual, often disadvantageous meetings. At these markets his freshly picked crop can be sorted, graded and sold without loss of time. The elimination of spoilage which so often accompanies hap-hazard peddling enables the farmer to collect top prices for his crop. The buyer gets the benefit of top quality and the food is put into consumer markets in better condition.

Public and private agricultural authorities, bankers and community businessmen have long been in favor of bringing about a direct contact between the southern farmer and the wholesale buyer because such relationship means more profit and an increased purchasing power for the farmer. In cooperation with these businessmen and with various state marketing associations and agencies, the Tennessee Coal, Iron & Railroad Company has helped to pick locations and develop plans for many central markets. Our agricultural engineers have designed practical, efficient buildings to house the markets, and our marketing division has repeatedly put farmers in touch with buyers interested in purchasing particular crops.

Central markets have helped greatly in distributing a large part of America's wartime food supply quickly and efficiently. They are destined to be an important peacetime factor in building a healthy, prosperous agriculture and the prosperity of the whole South.

U·S·S Steel Products manufactured in our mills include:

- Rolled, forged and drawn steel products.
- Structural shapes, plates, bars, small shapes, agricultural shapes, tool steel, strip, hoops, cotton ties
- Black, galvanized and special finish sheets.
- Wire and wire products.
- Reinforcing bars.
- Rails, track accessories, axles and forgings.
- Culverts, Panelbilt prefabricated steel buildings, cold-formed steel sections.
- U·S·S High Tensile Steels and U·S·S Abrasion-Resisting Steels.
- Semi-finished products, pig iron and ferromanganese.

TENNESSEE COAL, IRON & RAILROAD COMPANY

Birmingham, Alabama

United States Steel Export Company, New York

UNITED STATES STEEL

ADVANTAGES OF PRESTRESSED CONCRETE CYLINDER PIPE • NO. 1

Higher Pressure Ranges

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Lock Joint Pipe Company has applied the principles of prestressing steel in tension and concrete in compression in the design and manufacture of Lock Joint Prestressed Concrete Cylinder Pipe.

Retaining all the inherent advantages of the fundamental principles of Lock Joint pipe design, the use of high tensile steel makes possible still higher pressures in a greater range of sizes in keeping with Lock Joint economy of first cost and maintenance.

When you specify Prestressed Concrete Cylinder Pipe, you can depend upon a pipe of maximum elastic qualities as well as a pipe with the inherent benefits of water-tightness, durability and permanent high carrying capacity of steel cylinder design.

A Hazen-Williams Hydraulic Slide Rule will gladly be sent upon request with our compliments.

LOCK JOINT *Reinforced Concrete* PRESSURE PIPE

LOCK JOINT PIPE COMPANY

Established 1905

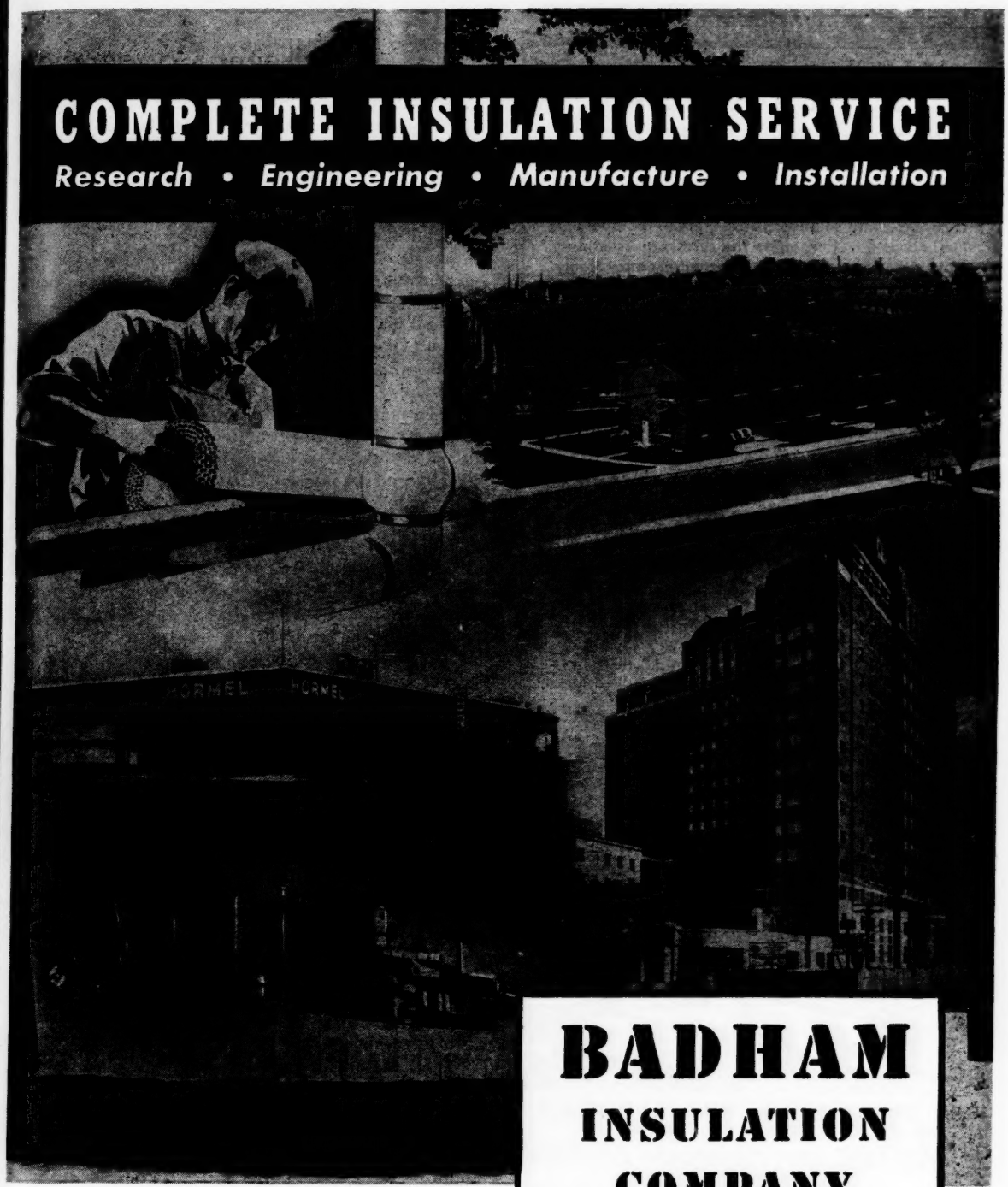
P. O. BOX 269, EAST ORANGE, NEW JERSEY

Denver, Colo. · Chicago, Ill. · Kenilworth, N. J. · Kansas City, Mo. · Rock Island, Ill. Joplin, Mo. · Valley Park, Mo. · Cleveland, Ohio · Hartford, Conn. · Navarre, Ohio

SCOPE OF SERVICES — *Lock Joint Pipe Company specializes in the manufacture and installation of Reinforced Concrete Pressure Pipe for Water Supply and Distribution Mains of large diameter as well as Concrete Pipe of all types for Sanitary Sewers, Storm Drains, Culverts and Subaqueous lines.*

COMPLETE INSULATION SERVICE

Research • Engineering • Manufacture • Installation



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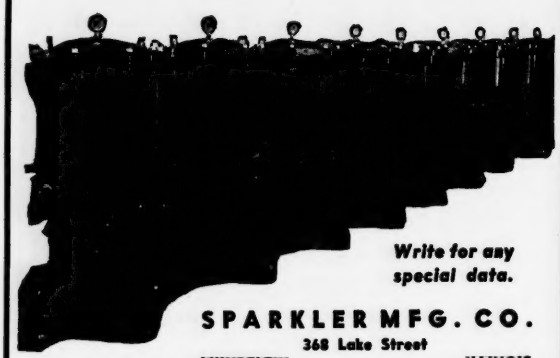
SPARKLER

"Horizontal Plate" FILTERS

For complete clarification, renovation and purification of liquid commodities—oils, chemicals, synthetics, plating solutions, waxes, etc.—the Sparkler method of filtration offers the surest, quickest and most efficient results. Sparkler Filters are highly adaptable, sturdily constructed, use any filter medium. Made in over 30 models, portable or permanent installations. Capacities 50 to 10,000 G. P. H. Our engineers are at your service.



Write for any special data.

SPARKLER MFG. CO.
368 Lake Street
MUNDELEIN ILLINOIS

MOVE MATERIALS FOR WAR AND PEACE IN Fulton WATERPROOF COTTON AND BURLAP PAPER LINED BAGS

In these times bag production is war production. Our plants have supplied millions of sand bags as well as various other items for use in combat areas. Behind the lines, supplies of food and other materiel are transported thousands of miles in bags specially designed to protect contents against hazards of rough handling, moisture and insects. Back here at home bags must move a long list of essential commodities ranging from small machine parts, through dozens of items of food, feed and produce to the hygroscopic chemicals requiring special waterproof packages. Many Fulton Waterproof Paper Lined Bags are replacing containers made of critical materials—metal drums, woodes boxes and barrels.
The output of our plants will continue to be devoted to these essential requirements until Victory itself is "in the bag."

FULTON BAG & COTTON MILLS
Manufacturers since 1870
Atlanta St. Louis Dallas
Minneapolis New York New Orleans Kansas City, Kan.

Intelligent Cooperation

Look Ahead—Look South!

This is the advice the Southern Railway System has been giving the nation's alert leaders in a series of advertisements appearing in 22 business and financial periodicals, 12 farm journals and more than 400 Southern newspapers.

Look South, these messages say, to a region rich in the fruits of farm and field—to the original Victory garden, planted by Mother Nature a million years ago, beneath whose soil lies other bumper crops of ores and materials of every kind.

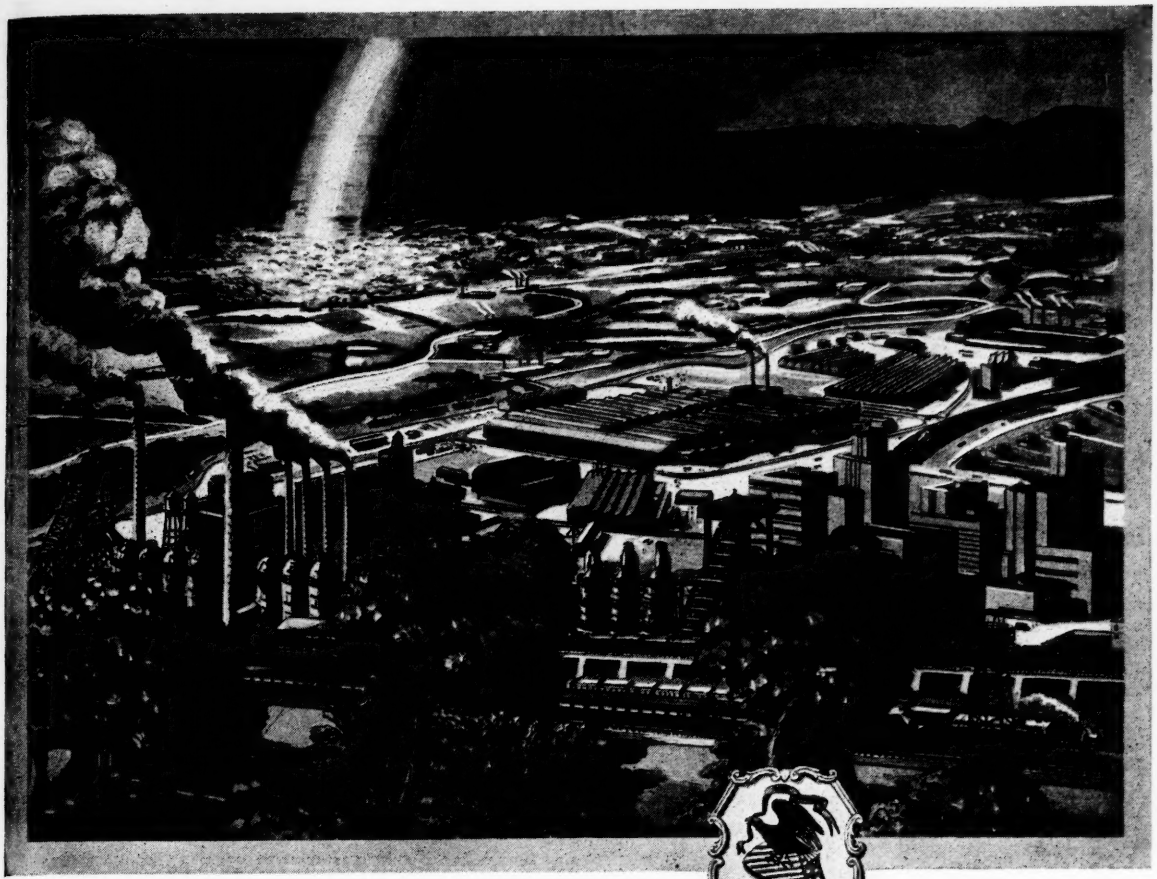
Look Ahead, beyond the stress and strain of war, to a Southland greater in industrial might—to new mines and mills and factories—and to carefully planned manufacturing cities where villages used to be. Look Ahead to a brighter day when the wealth and riches of a stronger, greater South will add to the security and happiness of free men at peace with each other.

Look Ahead to the South, the crossroads for the growing trade and commerce of the Americas as well as the laboratory where miracles of synthetic chemistry turn growing plants into sturdy fabrics. Look Ahead to a new Southern army, an army of thousands upon thousands of Southern workers, now in training on the battle fronts, in great shipyards, aircraft, steel and aluminum plants, powder factories, arsenals, war-busy plastic and chemical industries where they are learning the myriad skills of modern industry. Tomorrow the Fighting South will be the Growing South. It will justify the faith of all who Look Ahead and Look South.

Nor do these messages overlook that greatest of all Southern assets, Southern youth. They depict the thousands of clear-eyed young people throughout the South, already schooled in the traditions that have made America what it is today, busily preparing to bring new greatness to Southern industry, agriculture and commerce.

The truth of the story told in these advertisements is crystal clear. It means much to all Southern business. It means much to the railroad that sponsored the advertisements, for "the Southern serves the South." It is the resources of the South that enabled railroads like the Southern to grow great in the South. With growth, has come faith, and faith is the keynote of these advertisements, a compelling, abiding faith in the future of America's great and growing Southland.

In reply to the doleful predictions made by the Secretary of the Interior that the petroleum deposits in the United States were rapidly disappearing, experts in the petroleum industry have issued a statement in which they tell us that only thirty billion barrels of petroleum have been taken from the earth in this country since the deposits were first developed in the decade following the War Between the States. Twenty billion barrels are known to be available and it is believed that fifty billion barrels additional may be found with very little difficulty.



Frontiers TO SPARE

Are you one of those who believe that America has reached her "Last Frontier"? If so, we invite you to take a look at Alabama.

Here is a goodly land—where every factor is present for the building of the highest prosperity that civilization has yet known. Fertile soils, vast forests, unbelievable mineral wealth and other natural resources in variety and abundance beckon to those in quest of wider fields of opportunity.

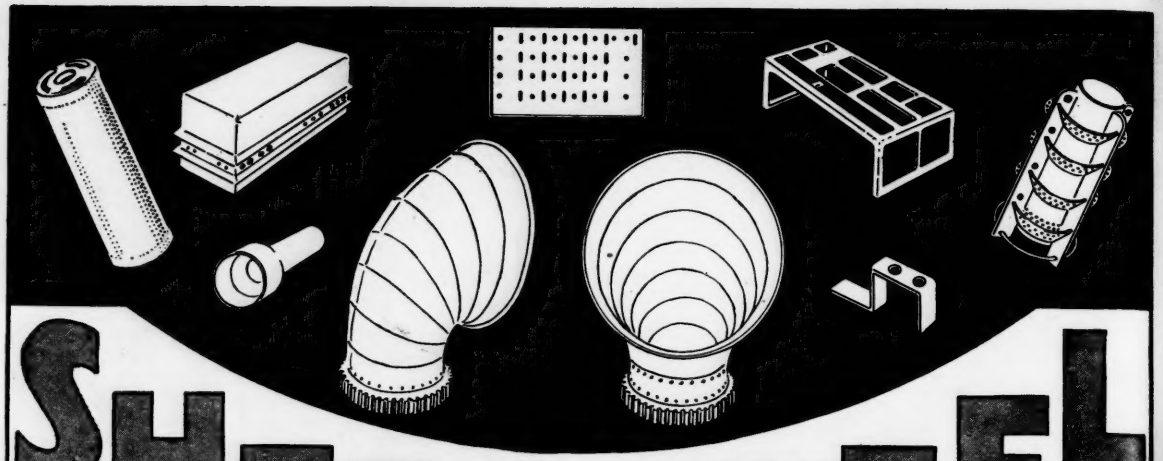
The Seaboard Air Line Railway, too, is imbued with the spirit of the pioneer. We have a kindred feeling for those who are seeking new worlds to conquer.

If you are looking for frontiers of new opportunity, we say: "Raise your sights. Take a look at Alabama."

SEABOARD
AIR LINE RAILWAY
THROUGH THE HEART OF THE SOUTH

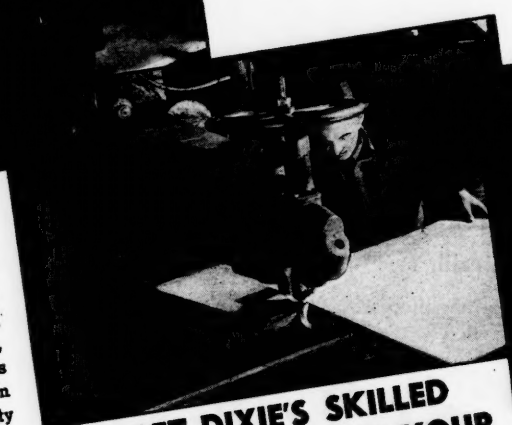
If you want a reprint of this advertisement in full color, write Seaboard Air Line Railway, Norfolk 10, Virginia

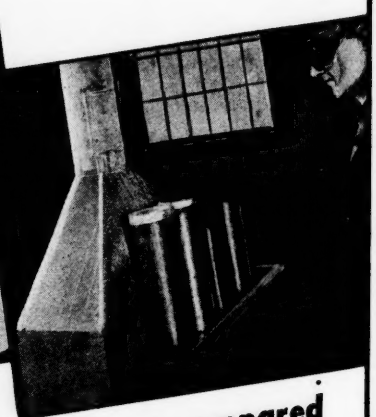
Buy more WAR BONDS!



SHEET STEEL PRODUCTS

From drafting room to the shipping department, every transaction of steel manufacturing is handled speedily and with extreme care. The activities of the Dixie manufacturing company, comprising as they do about Forty Years of Experience, handle all problems with precision and exactness. The staff is composed entirely of skilled technicans who are thoroughly familiar with every phase of their endeavor. Dixie's complete plant is equipped to accurately handle all sizes and forms of construction, ranging from those of delicacy to heavy proportions.





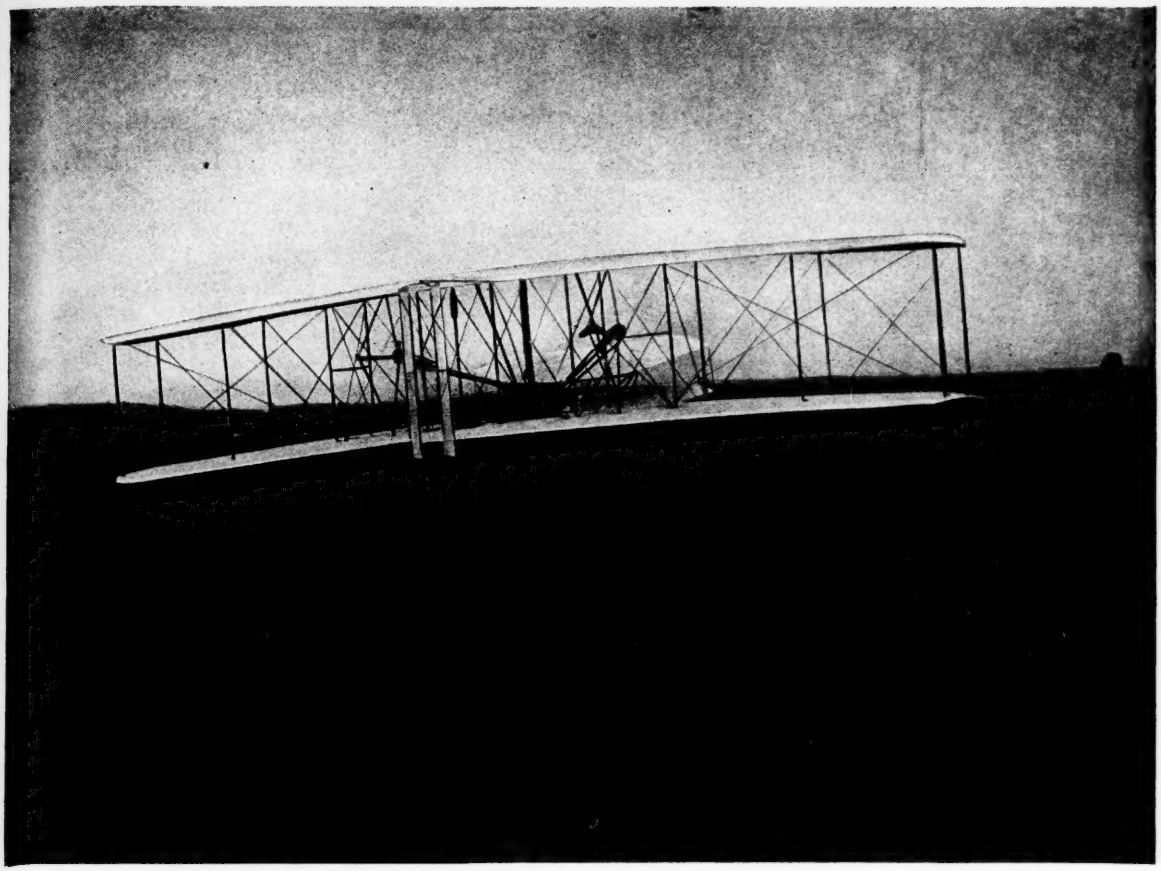
With superior facilities and great expansion of manpower, the quality and quantity of production has reached a maximum of efficiency, thus maintaining Dixie's high standards of precision and reliability. Dixie quality will satisfy the most exacting requirements.

LET DIXIE'S SKILLED EMPLOYEES SOLVE YOUR COMPLEX PROBLEMS

We are prepared to offer exacting methods

DIXIE MFG. CO., INC.

1314 RUSSELL ST.
BALTIMORE, MD.



The metal that flies best...
ALCOA ALUMINUM!

Alcoa Aluminum and the aircraft industry have grown up together.

When the Wright Brothers made their famous flight of 200 ft. across the windswept sands at Kitty-Hawk, N. C., on that fateful December 17, 1903, the crank case and the water jacket of the motor were cast from an Alcoa Aluminum alloy containing 8% copper!

Lindbergh's famous "Spirit of St. Louis," on his history-making Paris flight in 1927, had an aluminum engine cowling with a gleaming "sunburst" finish, which the French marvelled at!

Between 1927-1931, there were 200 all-aluminum Ford Tri-motor passenger planes built for transcontinental flights. There are approximately 90 still in service in Alaska, Central and South America, of which the youngest is almost 15 years old.

In 1888 the total output of aluminum by the Pittsburgh Reduction Company (Alcoa's parent company) averaged 50 lbs. a day. A single B-29 Flying Fortress consumes 50,000 lbs. or 1,000 times more aluminum than the total daily production 57 years ago. Both the aviation industry and Alcoa were truly small businesses less than half a century ago.

Today more than 75% of every American fighter and bomber flying the high glory road to victory is made of light, strong aluminum—"The metal that flies best."

Recognizing that America prospers only as small business prospers—providing additional jobs and security for millions of workers—Alcoa stands ready to assist any manufacturer, large or small, in the solution of problems involving the use of any aluminum product.

ALUMINUM COMPANY OF AMERICA
2109 Gulf Building, Pittsburgh 19, Pa.

ALCOA ALUMINUM

MERCOID
VISAFLAME
(LIGHT ACTUATED) CONTROL SYSTEM
FOR DOMESTIC AND INDUSTRIAL OIL BURNERS

Mercoid Visaflame has and is making good on numerous domestic and industrial oil burner installations under varying conditions with amazing satisfaction. Many have been in service for over six years. The Visaflame is also widely used on important war emergency installations.

THE MERCOID CORPORATION, 4201 Belmont Avenue, Chicago, Illinois

Bituminous Coal Dearth Looms

A bituminous coal shortage of 30,000,000 to 40,000,000 tons looms for the current year unless relief is found promptly for a situation that is growing steadily worse. A drop of nearly seven per cent for the first half of this year over production for the same period last year is officially recorded. Depleted manpower is the main cause of the shortage, and the industry sees an impending emergency unless relief is provided speedily.

The industry lost 30,000 coal miners in the three months, February, March and April, according to the Bituminous Coal Institute. The rate of diminution has shown no sign of checking. Nor is the loss in manpower solely one of numbers. The average age of coal miners last year was 45 years, whereas the prewar average was 32 years.

The loss of men from the coal mining industry is clearly due to two causes: Selective Service is inducting large numbers of young men into the armed services, and a great many coal miners have moved to other fields of industrial endeavor. With these two causes clearly in mind, the solution of the manpower problem in this essential industry should be undertaken with assurance by authorities who are responsible both for the causes of the condition and for the maintenance of domestic soundness in wartime. The labor drain should be stopped, and the tide of manpower turned back.

All pleas, however, for a cessation of military inductions from this industry have gone unheeded by either the War Department or the War Manpower Commission. Both have "refused to take any action designed to avoid or even to alleviate the present serious shortages of labor existing in the industry."

In desperation the industry has turned to the Congress for relief. Proposed legislation in the form of duplicate bills has been introduced simultaneously in both branches of the legislative body by Senator Kilgore and Representative Flannagan. This legislation would put both branches on record as favoring relief in the form of action by the War Department and the War Manpower Commission.

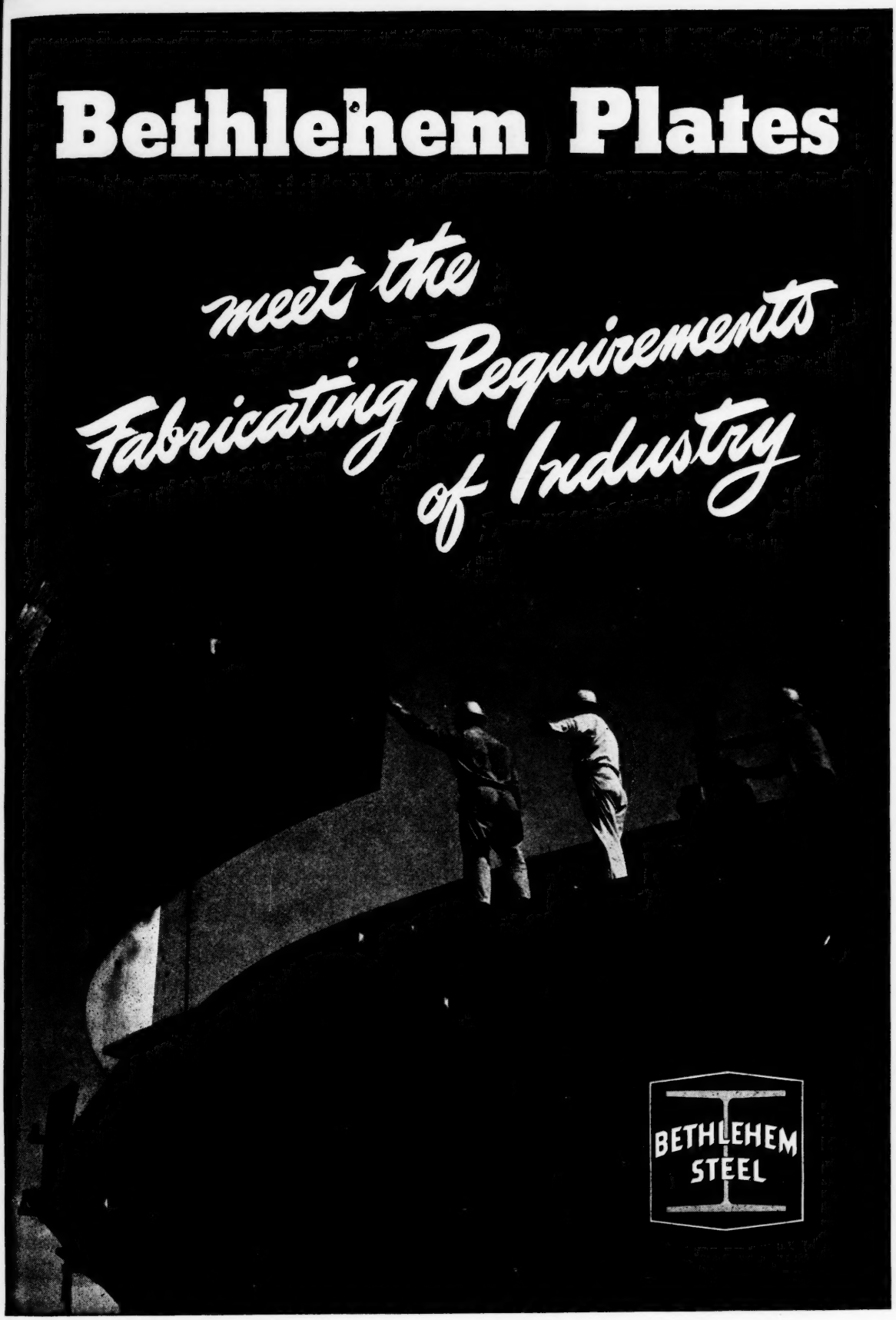
Enactment would call for the discharge from the army of 10,000 former miners who are not otherwise eligible for discharge under existing conditions prescribed by the point system, and the release under furlough of an additional 20,000 experienced miners who are serving at present within the territorial United States.

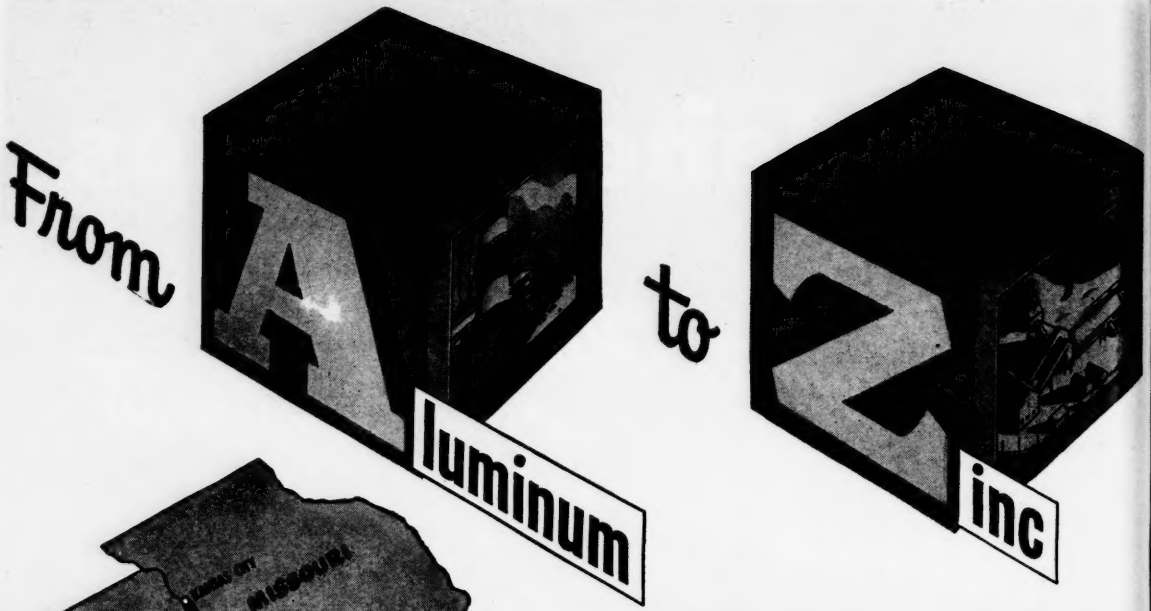
With the maintenance of adequate coal supply becoming a serious domestic problem at a time when liberated countries are approaching a winter of most distressing want, the Congress will find the pleas of the industry for relief even more insistent after the summer recess.

Coal will not win the war, but the war can not be won without coal.

Bethlehem Plates

meet the Fabricating Requirements of Industry





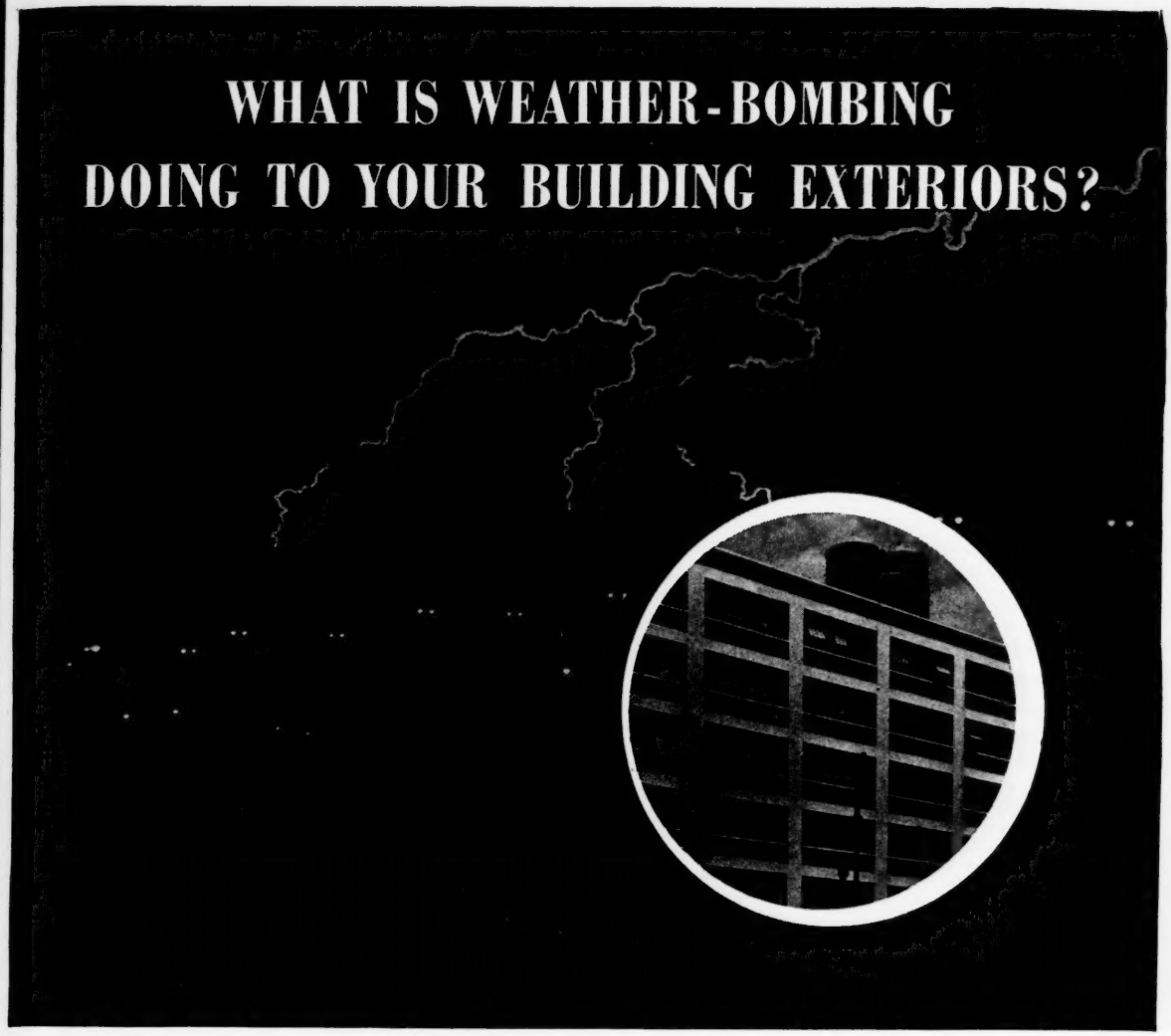
RESOURCES FOR POSTWAR INDUSTRIES ALONG KANSAS CITY SOUTHERN LINES

Vast and varied natural resources are available for economical, profitable industrial development in the six states served by Kansas City Southern Lines. More than 90% of all America's bauxite for aluminum; 70% of the nation's zinc—these are only two of the "firsts" of this potentially great industrial area. Right at hand, too, are the means of economical fabrication and production—coal, oil and gas for fuel and power; wood, stone and cement for construction; a variety of metals and minerals; skilled manpower, and direct, efficient transportation to all parts of North, Central and South America over Kansas City Southern Lines and through five world ports.

YOUR INQUIRY STRICTLY CONFIDENTIAL
Address F. T. Bixby, Director of Industrial Development, Kansas City Southern Lines, Kansas City Southern Bldg., Kansas City 6, Mo., for information and Cooperation.

KANSAS CITY SOUTHERN Lines

WHAT IS WEATHER-BOMBING DOING TO YOUR BUILDING EXTERIORS?



Raincoat Your Structures Now with Waterfoil

The Horn Research Laboratories took ten years to develop and test Waterfoil. It is unlike any other masonry protective coating. Waterfoil is manufactured of irreversible inorganic gels. These gels bond chemically and physically to concrete, stucco, or brick, to form a dense hard integral protective outside layer.

The Waterfoil "raincoat" has a microscopic porosity which lets the masonry breathe outwards and at the same time impedes water penetration inwards to prevent reinforcing bar rust, spalling or disintegration. Send today for the Waterfoil literature. It's important.

Horn Products and Methods Protect Millions of Square Feet of Surface Throughout the Nation

HORN PRODUCT

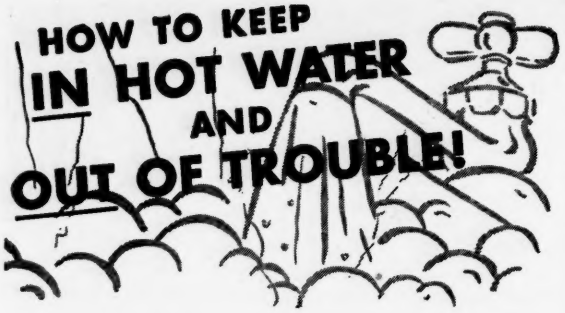
WATERFOIL

THE UNIQUE TREATMENT FOR EXTERIOR MASONRY SURFACES

A. C. HORN COMPANY

Established 1897

Manufacturers of Materials for Building Maintenance and Construction • Long Island City 1, N. Y.
Houston, Texas • San Francisco, Calif.



● Where it's essential to keep a steady supply of hot water, install the MARION GULF STREAM HOT WATER HEATER. Indispensable to hotels, office and apartment buildings, large institutions, and factories of all kinds where abundant hot water is essential and steam is available.

Construction is simple. Water is heated faster through intimate contact with steam chambers adjoining. Internal parts float independently, avoiding strain from rapid contraction and expansion.

Low pressure steam is utilized with greatest economy. Inexpensive investment. Capacities range from 370 to 3700 GPH. Instantaneous type but can be used with storage tank.

Write Us Your Requirements and Let Us Solve Your Hot Water Problem!

THE MARION LINE

MARION MACHINE, FOUNDRY & SUPPLY CO.
Marion, Indiana, U.S.A.

Gates—Intake, Sluiceway and Spillway

Hydraulic Turbines — Francis and Propeller Types

Rack Rakes

Trash Racks

Valves—Pipe Line and Penstock

•

NEWPORT NEWS SHIPBUILDING AND DRY DOCK COMPANY

NEWPORT NEWS, VIRGINIA

Depletion of American Scientists Heavy Postwar Handicap

America is taking notice—too little and too late—of the fact that our selective service machinery has operated without regard for the country's need for scientists to assist in the tremendous task of postwar reconversion and re-employment. The draft boards have reached into the colleges for young men of technical training and in tens of thousands of instances transferred them to service duties wholly unrelated to their skills and training. Our college graduating classes have been reduced to 10 per cent.

Attention to this deplorable situation is directed by Dr. Charles Allen Thomas, research director of Monsanto Chemical Company, an industry of science and scientists.

In contrast with the American policy of neglect in this connection Dr. Thomas states that both England and Russia have been more careful to conserve their crops of future scientists, not neglecting their training in time of war. England, having learned her lesson in the last war, has taken pains this time to keep her scientific and technical schools crowded. No English scientist of 21 years or older is permitted to engage in any kind of work, civil or military, that does not utilize his special training. Every effort is made to keep scientific students at their studies until they are 25.

Russia's appreciation of the value of her young scientists is noted in the fact that she awarded 75,000 technical degrees in 1942, and probably more each year since.

Since, in normal peace time America awarded about 35,000 technical degrees, and this figure has been decimated during the war, it is plain to see which of the Big Three will rate third-best in young scientific and technical manpower after the war.

Dr. Thomas states:

"England and Russia will emerge from this war more strongly equipped with scientists and technicians than at any previous time in history. If the war were over tomorrow the United States would need until 1955 before our colleges would be able to make up the deficit of trained scientific men in this country. We approach the postwar era with a pent-up demand for scientific progress and industrial applications of our science by industry, but we are making no provision for supplying scientists whom we must have in order to meet this demand.

"Instead of accelerating their training, as we should in order to secure increased scientific accomplishment, we have retarded it. Unless something is done immediately our country suffers scientific bankruptcy. I believe the people of this country should be cognizant of this tragic situation."

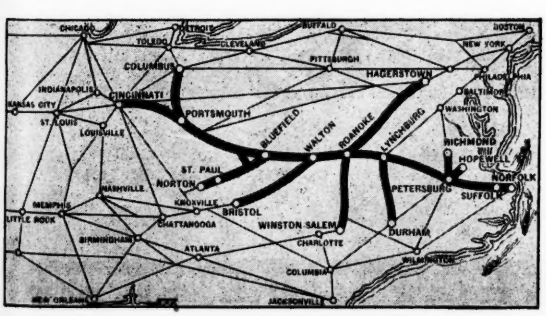
In the face of this situation how can the United States hope to maintain its reputation for pioneering the world in scientific discovery and development? Are we in imminent danger of dropping to a poor third in these fields, outstripped by both England and Russia?

Every hour of the day and the night, freight and passenger trains are speeding over the heavy steel rails of the Norfolk and Western Railway. Track conditions are excellent . . . employees are on the job — alert, vigilant . . . electric signals wink their colored lights . . . traffic speeds swiftly toward many destinations. But there are other unsung and comparatively little-known watchers on duty — the electrified slide detector fences.

Scarcely noticeable along the right-of-way as trains flash by, these automatic guards for safety notify the crews of approaching trains if, when and where track obstructions occur.

On certain divisions of the railroad there are tunnel portals or deep cuts, where slides might occur during rainy seasons and send earth and rock toward the tracks. But before reaching the tracks, the slides must first strike the detector fences, thus breaking the circuit of electric current which operates the signal system. The broken circuit places the signals in "STOP" position on both sides of the obstruction, and locomotive engineers proceed slowly, prepared to stop short of the obstruction.

The first slide detector fence on the N. & W. was erected in 1926. They have been developed and improved. Undramatic, yes, but since they have been in use these Sentinels of Safety have detected every slide that might have affected train operation on the N. & W. — a proven contribution to the safe movement of precious human life and vital freight.



Norfolk and Western RAILWAY

PRECISION TRANSPORTATION

BUY MORE WAR BONDS

WHEREVER YOU GO YOU SEE BURROUGHS MACHINES

Businessmen want a quality product, built with precision to operate with precision, and designed for long, dependable service. They know the importance of being able to select freely from a complete line of machines. They want to be sure of having dependable, efficient maintenance service. They place importance on the technical help that can be given them in planning installations and applications.

Businessmen might buy Burroughs for any one of these reasons. Actually, they buy Burroughs for *all* of these reasons. For Burroughs leads on all counts—finer products . . . the most complete line of machines . . . the leading service organization . . . experienced counsel. No wonder that in big business and small . . . wherever you go . . . you see Burroughs machines.

1st Burroughs

IN MACHINES
IN COUNSEL
IN SERVICE

BURROUGHS ADDING MACHINE CO., DETROIT 32, MICHIGAN

FIGURING, ACCOUNTING AND STATISTICAL MACHINES • NATIONWIDE MAINTENANCE SERVICE • BUSINESS MACHINE SUPPLIES

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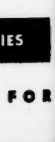

[illegible] raw material used by the Company for [illegible] rayon is wood pulp and cotton linters pulp. [illegible] of the wood pulp today is derived from [illegible] plant, while the cotton linters pulp is also [illegible] product. The American Viscose Corporation worked closely with Dr. Charles Herty in [illegible] experiments which resulted in the successful use of Southern slash pine in producing the [illegible] type of cellulose needed for rayon [illegible]

[illegible] made by the Company is widely used [illegible] Southern textile industry. Hundreds of fabrics today are made by blending cotton with rayon to obtain desired textures and fabric effects. [illegible] may the South's great staple crop and the [illegible] rayon fiber cooperate to give the American public finer fabrics and greater value for [illegible]

[illegible] Corporation for [illegible] to finance many Southern [illegible] plants with capital funds

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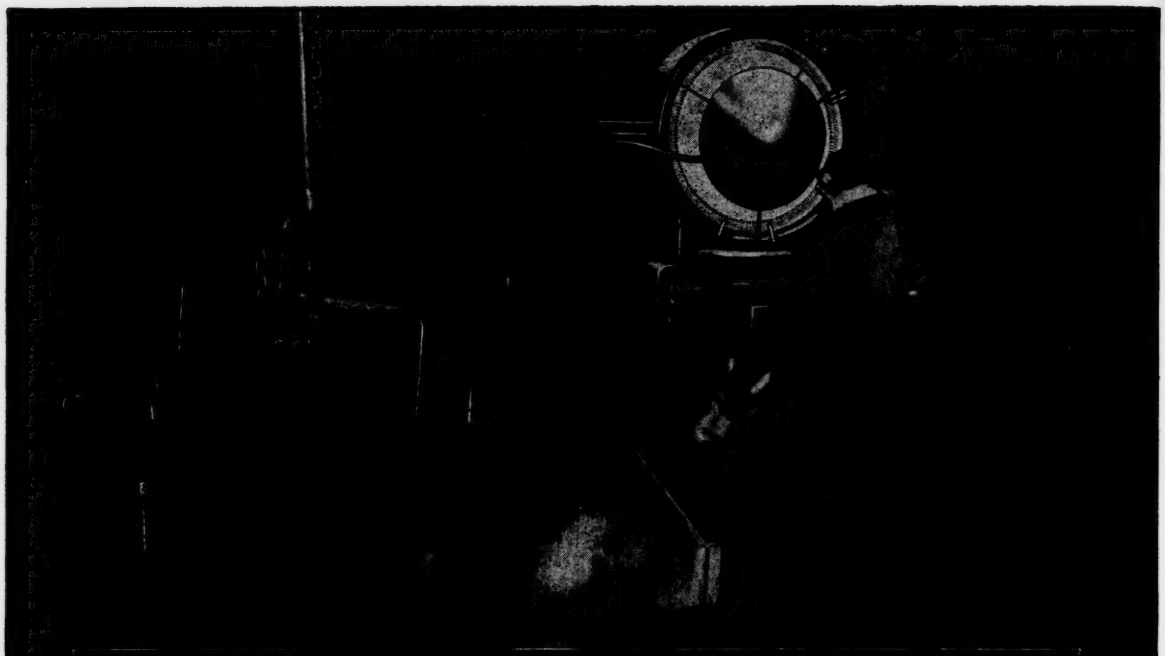

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"What Enriches the South Enriches the Nation"

The Atom Unchained

As the MANUFACTURERS RECORD goes to press the world has been stunned and the Japanese confounded by the announcement that an atomic bomb has fallen on Hiroshima and that its amazonic sisters are being produced in quantity in what formerly was the little town of Oak Ridge, Tennessee.

The first natural and normal reaction of a scientifically untrained mind is one of stupefaction. It is unbelievable because it is inconceivable. The creation of such an intense force is a marvel of scientific knowledge and ingenuity and its possible implications stagger the imagination.

As a weapon of war, an instrument of destruction, a concentration of awful power instantly released, this new brain child of man not only spells a quick and sure ending to the war in the Pacific; it also may write on the pages of history the blotting out of a nation of 90 millions and the total destruction of the land on which they now live.

It is not only as a destructive force that the potential possibilities of the principles of the atom bomb cause mental gasps and stuttering amazement, tremendous though they may be, it is the harnessing and application of this great newly discovered force, its control and direction for creative purposes that, figuratively speaking, has the mind of man hanging on the ropes. Where will these possibilities end?

Does this discovery mean that light and heat and power can be produced when its energy is expended gradually and will this make obsolete the combustion of coal and oil for similar purposes? Will it permit nature unhindered to fill the power dams with silt? If such energy can be expended explosively for destruction certainly it is conceivable that it can be utilized gradually and directed toward the end of progressive welfare.

When the tremendous impact of this discovery explodes within our imaginations, when we see in it another example of the accomplishments of free men striving in a free nation we shake our heads in sorrow over the deluded and deluding misanthropes who embraced the thought of a static social economy and a withering moral world spoon-fed on paternal pap.

A FALSE PICTURE

There are some forces outside the South that seek to cover up their own sectional short-comings by painting the South in false colors. These efforts are rarely worth notice. Usually they are clumsy and self-evidently fallacious. But recently they have been given effectiveness by some Southerners in high places who have been snared into giving them aid. Two varieties of prominent Southerners have let themselves become haltered by anti-South propaganda.

First, there are those who, by answering scurrilous attacks in kind, degrade not only themselves but the South they represent to the level of the racketeers who initiate the attacks. Invective and expressions of bitterness are not only ineffective as argument; they even prejudice, in the public mind, the sincere motives of Southerners who oppose legislation like FEPC. Scurrility is best ignored.

Equally deplorable is the action of those who give lip service to doctrines depicting the South as unworthy and incapable of charting its own destiny. It is commendable to take full stock of weaknesses and to resolve to correct them. It is not so commendable —nor is it true—to admit that outside direction is necessary to attain these ends.

When the South is painted as a region in which poverty is the predominant characteristic it is a false picture. Whether it be painted by forthright statement or by distortion of a report or record, it is still a false picture. The ill effects are not lessened by the manner in which the picture is presented. Southerners should beware lest their words or reports, given in frank sincerity, be twisted to other purposes than those for which they were intended.

Far too much is being read and heard beyond the South's borders about the South's purported poverty, controlled politics and race prejudices. Of poverty the South doubtless has its share—no more. It may have its "share-cropper hovels" and its "inadequate diets" as pictured in anti-South propaganda; but its hovels are usually vinecovered, fragrant with the wholesome breath of nature and surrounded by garden spaces to aid in the banishment of unbalanced diets. If it hold exclusive claim to tobacco roads it is only because tobacco is an exclusive Southern product that other sections would give their eye teeth for. East Side slums and South Side dens, Badlands and Boweries outside of the South are not gardens of Eden either.

Bad politics—yes. Again the South has its share—no more. And if some of the legislation that has been cooked up in other sections, and in the Nation's Capital by the representatives of other sections, is a criterion the South has far less than its share.

Race prejudice—no. That is an exclusive product of others who would foist it upon the South. The position of the Negro in Detroit or New York may present a social and economic problem crying to be solved. In the South he is accepted as a condition that is constantly changing for the better. The South is against FEPC. Such legislation can have but one effect. It will create and foster race prejudice.

HOME REMEDY

It begins to look like the Southern cotton farmer will have to save himself from his would-be saviors if he is to be saved at all. Once before he was faced with this situation. And he came out on top. It is better than a fifty-fifty chance that he can do so again.

At one time the boll-weevil was hailed as the savior of the cotton cropper. It is true, the little pests displayed very little intelligence in their procedure and saviors are generally expected to have a certain degree of common sense. Still, the expression, "the boll-weevil was the salvation of the cotton grower," gained considerable prestige and seemed even to appeal to some farmers themselves. But it was the farmer himself who woke up to the fact that any salvation that must culminate in destruction is no salvation at all. So he proceeded to exterminate the boll-weevil. And he got along pretty well for a time.

Then, along came another crop of saviors—the politicians. While they differed in some physical respects from their little plant-boring predecessors, their operating philosophy had very much in common. It concealed ultimate destruction with periodically injected stimulants.

All Southern farmers are aware of the fallacy of this form of reasoning. They know, if the politicians do not, that rigged prices mean ever-shrinking markets; that shrinking markets mean ever-growing surplus; that growing surplus means extra-rigging of prices—and so on around the vicious circle. The farmers know this but they have not gotten around to remedying the situation for two reasons.

In the first place the farmer has the feeling that the politicians have gotten him into the mess he is in and is more or less justified in demanding that they get him out of it.

In the second place the problem is more complex than the one presented by the boll-weevil. Every farmer could go out and exterminate his own weevils. Exterminating politicians is something else again. Each farmer very likely realizes the need for the exterminating process but knows that he cannot do it alone and has not gotten around to talking it over with his neighbors.

To do this at once will not be too soon. War conditions serve to throw a bright, but deceptive, veil over a dismal picture. Cotton is in great demand now. As is the case with all war products, price is no object to military procurers. The munition works must have cotton regardless of price. Even after the war, for several years at least, it appears that cotton will be able, not only to stand on its own bottom but even to give a fine account of itself in so doing. The world is denuded of the things that are made from cotton. It will take some time to replenish the shortage. During this period, neither synthetic fibers nor foreign-grown staple are going to make inroads on American cotton. The need for all of them is too great.

During this period the Southern farmer will have his chance,—a chance to get back on his own two feet and enjoy the freedom that once was his and rightfully belongs to him,—a chance to control the poli

tician pest in as effective a manner as he did the boll weevil. He will have this chance—if he gets busy now.

Now is the time to take stock of agricultural and financial resources to see what best can be done with these to meet the needs of the future. War profits should go into mechanized implements. Acreage should be carefully appraised with a view to putting it to its most fruitful use. A vast lot of Southern ground is planted to cotton that would produce greater income from some other of the South's exclusive crops.

Now is the time to talk it over with fellow farmers; to make joint plans for demanding riddance of unsound policies and to work out sound measures for transitional-era support if these are actually needed. If they are not needed, they should be put aside—for the degree of prosperity that is in store for the future, and the promptness with which it may be attained, depend heavily upon the swiftness with which the farmer shakes off government aid and interference.

Above all it should be remembered that it is the fat of the farmer, not of the politician, that is in the fire and that it will be fatal to wait until the politicians decide to treat cotton as an economic problem instead of a political football.

FALSE PROPHETS

A new crop of labor leaders may be in the making. Vehement opposition by Messrs. Green, Murray and Lewis to enactment of the Federal Industrial Relations Act, sponsored by Senators Ball, Burton and Hatch, cannot fail to bring these labor leaders and their subordinates under the sharp scrutiny of the organizations they represent.

American workers constitute a large segment of the American consuming public. They enjoy, like the rest of us, all of the advantages of American production. They are likewise adversely affected by all obstructions to the smooth working of free enterprise Rightly or wrongly they have turned to the organizers of labor unions as the instrument for obtaining what they believed to be industrial justice. In many instances this proved a weapon and turned out to be a boomerang to other desires and ideals they held dear. Through union methods of settlement by violence and compulsion they often found themselves actually at war with themselves.

Industrial justice forms the basis for all the provisions of the Ball, Burton Hatch Bill. And therein may lie the reason for the violent protestations voiced by Green, Murray, Lewis, et al. The Bill, if made law, would provide, for union members, without turmoil, financial loss or inconvenience as consumers, the very things that labor bureaucracy has insisted that it only could deliver. Workers would find reconciliation of their needs as consumers and wage-earners. They would be at peace with themselves.

Labor bureaucracy has been built upon an entirely different foundation. Labor leaders of the past and present have striven to convince their followers that the only road to fair wages and working conditions lay through unceasing industrial strife. Many strikes have been called for the sole purpose of engendering this thought in the minds of organized workers.

With the obsolescence of strikes as an effective or desirable technique in industrial relations, a higher type of leadership will become the order of the day. Statesmen and administrators rather than racketeers and propagandists will be sought by the rank and file of American workers to lead them in their more enlightened sphere in American economy.

Would present-day leaders measure up to that standard? If they thought so, would they take so violent a stand against a proposed law that offers everything for which they have told their people they were striving?

SOCIALIZED MEDICINE

Deep depression, the hazards of war and limitless propaganda have made the American people "security conscious." Benefits which accrue under the existing Social Security laws generally are approved. Most people believe that the extension of benefits to more people is justified.

Under the existing Social Security law, Employment Offices are maintained — under Federal and State control—to find jobs for the unemployed. Provisions are made for aid to the needy aged, the blind and for dependent children. Payments are made in cash.

To beneficiaries under the Act, compensation is paid during periods of unemployment. Payments are made in cash. Retirement benefits, death benefits for surviving relatives, monthly allotments for widows and dependent children, are provided. The payments are made in cash.

Proposals have been advanced for the government's providing full medical care and hospitalization for all Social Security beneficiaries and their dependents. Authority is to be given a single government official to hire doctors and establish rates of pay; to control and operate hospitals and actually dispense medical care to millions of people. No cash payments are involved. In effect, the Federal Government would establish 100,000 retail establishments, man them and conduct the business of peddling pink pills to people.

Some people believe that in bureaucracy's vast pool of master minds, there are individuals fully qualified to tell farmers what and how much they can sow and when and how to reap; other individuals competent to tell the oil wildcatter the size of the pipe and depth to which he is permitted to drill; and yet others with capacity to tell the newspaper editor what he can print and how he shall treat and headline his dispatches. It may be true, but we doubt it.

However, no sane person can believe that any bureaucrat can direct the rendering of medical care without actual suicidal deterioration in the quality and effectiveness of the service that is provided. It is the ultimate in absurdities.

Right—Ramie plants. The Florida State Department of Agriculture is devoting 600 acres this year to growing the new fiber plant on its farm at Belle Glade.

Ramie---

Miracle Weed

A PEST in China for many centuries and nothing more than a tall stingless weed of the nettle family, ramie in Florida and elsewhere in the South becomes the wonder plant of agriculture and industry. Uses of the fiber were restricted to fish lines and nets for Japan. Today, after its first planting of eight acres in Florida, three years ago, this so-called "China grass" is having its fiber beat out of it by new machinery at a pace of 400 times a second as contrasted with the hand-processing in the Orient. Its post-war products range from hats and dresses, shirts and other wearing apparel to ropes, upholstery, curtains, brake linings, automobile seat coverings, and heavy textiles. It is strong, light and durable.

As a crop and industrial possibility, ramie is a wonder weed. Planted only once and requiring no cultivation after the first year, "here is a new crop and industry for Florida. I predict outstanding success," declares Florida's Commissioner of Agriculture Nathan Mayo. To this prediction, Florida's fiber specialist, Walter B. Simons, adds his evaluation, "This should be the greatest industry in Florida." Millions of acres of muck lands in the Everglades are suitable for cultivation of the crop; the John Deere hemp harvester is being employed to harvest the crop; the new decorticating and degumming machines are extracting the fiber at an accelerated pace, and existing textile machinery is transforming the fiber into hats, dresses, shirts and other fabrics formerly woven from silk and cotton and linen.

From the roots to the spinning, one company, the Sea Island Mills, Inc., of New York, is developing the plant, 600,000 roots as first planting —stripping the fiber from the stalk as well as taking out the objectionable gum, and spinning the fine yarn for shirts and other textiles. Formerly, this concern imported both the fabric from China and the decorticated fibers from the Philippine Islands. These importations were lacking in uniformity of quality—from the Far East would come one bale of fiber of perhaps desired quality, whereas the next bale would be produced on a farm on the other side of the mountain and of questionable character. Now, the Sea Island Mills, Inc., is producing ramie exclusively for fabric purposes — having lately purchased $4,000 worth of ramie plants for their holdings in the Everglades.

The Newport Industries, Inc., and the United States Sugar Corporation, of Pensacola and Clewiston, Florida, respectively, are jointly developing 500 acres of the new-comer among commercial fibers. A retired physician is cultivating 180 acres of ramie at Zellwood, Florida, and Captain Alexander C. Kidd of the Florida Ramie Products Company, Inc., producer for the Johns-Manville Company of New York City, has purchased 5,000 acres in the Everglades for growing ramie. Other plantings in Florida not itemized as to individuals and concerns will run up the aggregate acreage to 10,000. Experiments in cultivating

the new crop are also in progress in the Mississippi Delta, in Louisiana, Texas, and California. This rapid expansion of the growth of this China-imported weed started with a patch of ramie barely larger than a vegetable crop—only eight acres—planted three years ago by the Florida State Department of Agriculture on its State Farm at Belle Glade. It now has 600 acres devoted to the plant, ready to be harvested this year.

Ramie is a warm-weather plant and if mulching is to be avoided commercial production is limited to Florida, and along the Gulf Coast to Texas and California. Being a rank weed it will grow in some measure in any kind of soil and under varying climatic conditions but if it is to yield a mature and profit-deriving fiber the growing conditions with respect to temperature, soil and moisture are somewhat exacting. For example, if the fiber yield per acre is to be high, a long-growing season must be allowed. Conversely, a brief or interrupted growing season will not produce a

by

S. R. Winters

satisfactory yield of the fiber, and the plantings must be in a region where the frost does not thrust its blanket of cold to a depth of more than three inches. Indicative of the flexible nature of this China weed a frost may kill it to the ground and yet the subsequent cutting, following the frost, may be exceptionally heavy assuming that the roots are not blighted. Ramie thrives on a slightly acid soil — what the chemists define as pH between 5 and 6— and at the same time this soil must be rich, full of nitrogen, and the land well drained. To effect this necessary water control — in the Everglades, for instance — there should be numerous canals, laterals, farm ditches, and mole drains to keep the water in the earth at a definite level. Ample rainfall, equitably distributed, is a requisite to successful ramie cultivation — a minimum of 40 inches of rain a year. Another absolute requirement is a generous application of copper sulphate — about 100 pounds to the acre, at a cost of five dollars.

Ramie eats up plant food comparable to a sponge-absorbing water — the rich land of the Everglades requiring an application of 250 pounds of 60 per cent muriate of potash, before planting the crop, if the harvest is to be extremely fruitful.

Down in the Everglades—symbol of muck lands, jungles and rattlesnakes — in a drainage district where ramie is to be planted from cuttings (rather than seed) and the land had been cleared, plowed, disked and dragged, treated with copper sulphate and muriate of potash—then it is sub-drained and sub-irrigated by a so-called "moling" process. This implies the cutting of 4½-inch holes in parallel lines about

(*Continued on page 78*)

Left—In the upper picture, Walter B. Simons, fiber specialist of the Florida state farm, exhibits shirts made from ramie. One has been laundered 72 times. In the lower view, Mr. Simons holds a sample of the fiber.

POWER GRABBING BY STEALTH

WITH stealthy but deadly precision, Federal bureaus and agencies have been reaching out during the past decade or more to usurp powers that have long been considered inherent rights of the people or constitutional rights of the states.

If this grab for power had been restricted to the temporary exigencies of war there would not be such great cause for alarm. But such is not the case. The great majority of Federal agencies have been set up with controlling power over peacetime economy, and with very few exceptions invade authority originally reserved for the states or the people.

As these agencies become more strongly entrenched, one of the most alarming features of their development is that they have been able to sell a large segment of the American people on the idea that their existence is useful and necessary. Their ability to do this has been enhanced through the usurpation of a privilege not contemplated for the Federal government by the framers of the Constitution. They have been able to do it by a flood of propaganda insinuated into legitimate government communications that are published or broadcast ostensibly for the public welfare.

It has been reliably estimated that over 300,000,000 publications of one kind or another are annually distributed by government departments and bureaus. Of these, the production and distribution of less than 20,000,000 can be directly traced to legislative authorization. In addition to these a multitude of broadcasts radiate government propaganda over the airwaves daily, and outdoor signboards and placards dot almost the entire area of the nation.

The mania for government agencies has grown so swiftly and so extensively that the average American citizen is genuinely shocked to learn that there are, in the executive department of the Federal government alone, no less than 48 (emergency and) independent bureaus, subdivided into nearly 1,500 offices in the Capital and with an equal number of field agencies scattered among regional sections of the country.

While not all of these bureaus are equipped with public relations facilities, the vast bulk of them are so equipped, and much of the information put out in their pamphlets, booklets and releases is devoted to glorifying individual politicians and the accomplishments of the departments they head.

Propaganda, however, is not restricted to the executive branch of the government. Congressional committees with full employment, fair employment and similar vote catching axes to grind have been quick to grasp the potentialities available in publicity and have, at times, released floods of data, colored to show off their pet fantasies in the most entrancing form.

Closely related to the alarming spread of bureaus and agencies, and even more potentially menacing, is the wedge of Federal corporations and Authorities that has been driven into the rights of states and individuals by the Federal government in the grab for power.

Strangely, and dangerously too, the establishment by Congress of independent Federal corporations is in the direction of robbing not only states and individuals, but even Congress itself, of constitutional authority. These corporations, neither fish nor flesh so far as laws governing corporations are concerned, have increased to over one hundred and control funds running into billions. Most of them at present are neither answerable to Congress nor subject to regulations of the Interstate Commerce Commission. In essence they are governments within government and are described by Comptroller General Lindsay C. Warren as being "of gargantuan proportions, sprawled all over the lot." Mr. Warren says further that "if the present trend of creating government corporations continues or is not curbed we will soon have a government by government corporations."

Paralleling the effects of these corporations, a similar power grab is evident in proposed legislation that would set up nine so-called Regional Authorities to cover the entire United States. All would be patterned after the Tennessee Valley Authority, a Federal corporation clothed with power of government, and as yet the only existing government instrumentality of this type.

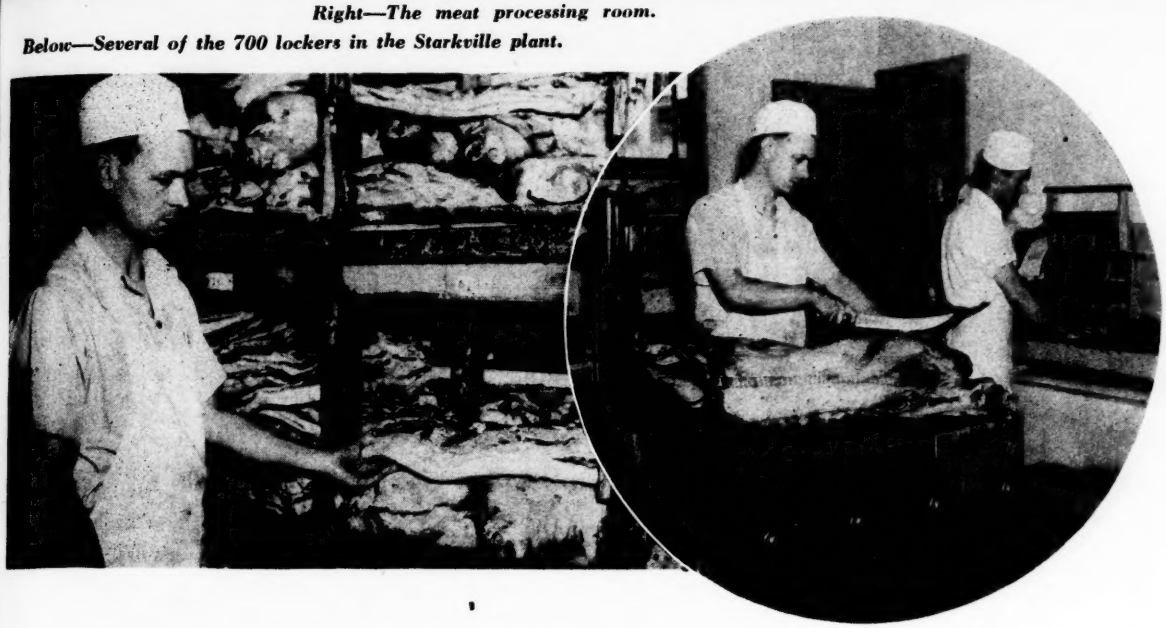
The proposed bills, sponsoring what amounts to a change in the form of United States government, would empower the nine Authorities (to deal in matters that are not public in their nature) to participate in local social and cultural affairs and to control community activities that have heretofore come within the jurisdiction of state or municipal authority. The conviction that a radical departure from the American form of government is incipient in these proposed measures is inescapable and is recognized by the Federal government itself. This is evident in the testimony offered by Secretary of the Interior Harold L. Ickes before the Senate Commerce Committee in its recent hearing on one of these "Authority" bills. Mr. Ickes said:

"The committee should not underestimate the magnitude of the task that is before it. You have before you not merely a question of establishing a single Authority, for eventually the Congress will do no less for one watershed than for another. Therefore, there is before you a major step in the basic reorganization of the Government of the United States as we have known it for the last 150 years . . . it (the Authority idea) is a theory that strikes at the very roots of present Government organizations . . . "

Besides the bill for which this testimony was given, (S. 555, Missouri Valley Authority Bill) proposals are before Congress for establishing an Atlantic Seaboard Authority. Great Lakes-Ohio Valley Authority, Arkansas Valley Authority, Southwestern Authority, Columbia Valley Authority, California Authority, and Colorado River Authority, which together with TVA, now in effect, would make a total of nine such giant corporations, sweeping the country from the Atlantic to the Pacific and

(*Continued on page* 74)

Right—The meat processing room.
Below—Several of the 700 lockers in the Starkville plant.



RAPID EXPANSION IN FROZEN FOOD LOCKERS

MORE than 5,000 new frozen food locker plants will be constructed within five years after the end of the war with Japan.

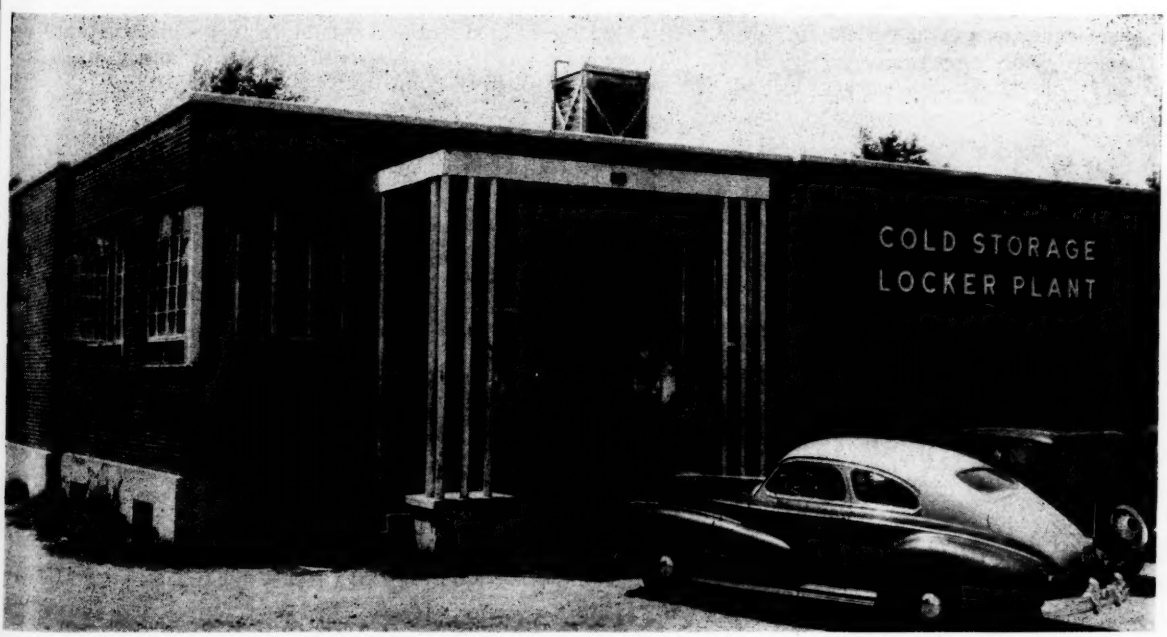
The frozen food locker industry, which began on a large scale only a little more than ten years ago, and is currently confined mainly to farm communities, will become the Nation's fastest growing service business, both in rural and urban districts.

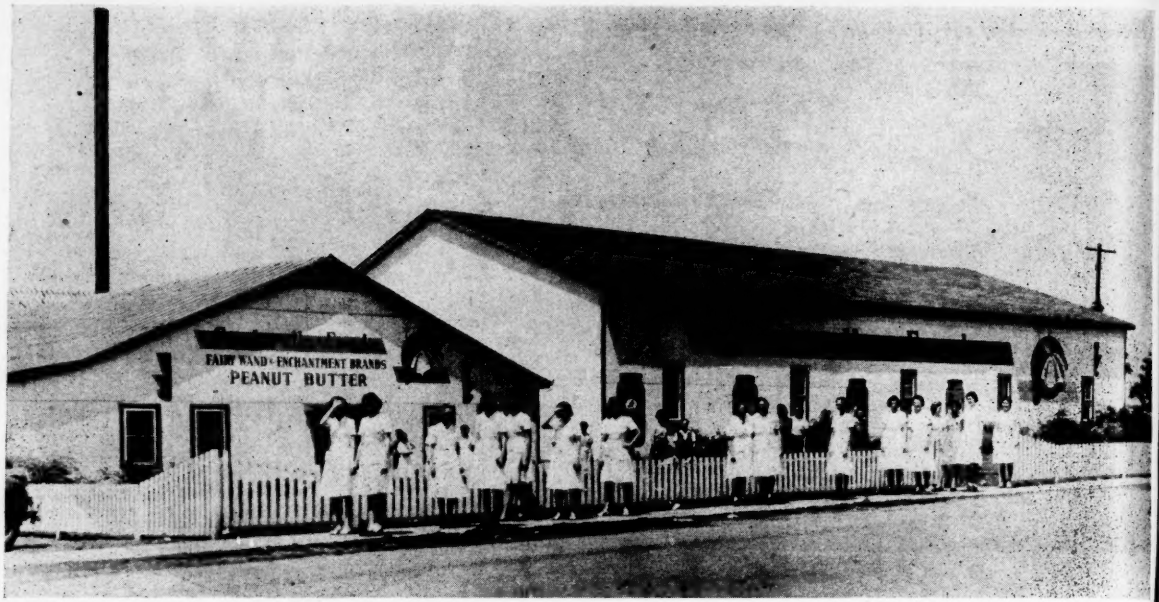
These predictions, made by the National Frozen Food Locker Association, representing the industry which operates more than 2,000,000 individual storage units serving 25 per cent of America's farm families, are based on anticipated improved and broadened postwar locker plant services.

From a modest 1,000 locker plants in 1938, the total has now risen to more than 6,000. Association figures show that more than 80 per cent are located in rural areas, 75 per cent

(Continued on page 74)

Below—Frozen food locker plant at Starkville, Miss. The plant "cures out" between 90,000 and 100,000 pounds of pork annually. It is a cooperative enterprise.





Peanut Processing plant and storage building.

THE PEANUT

— A Southern Cinderella

AS a recipe for economic progress in the South, choose a Southern raw material, preferably one of the many exclusively Southern products; process it in the neighborhood of its source of supply; mix in generous quantities of research and enthusiasm; and don't overlook community cooperation. This is the recommendation of Ed Stevens of Dawson, Georgia, whose sponsorship of Cinderella Foods spearheaded peanut processing in his community.

Mr. Stevens counts heavily on the last-mentioned ingredient of the recipe and writes in a letter to MANUFACTURERS RECORD: "We are more interested in building our section than we are in building a business."

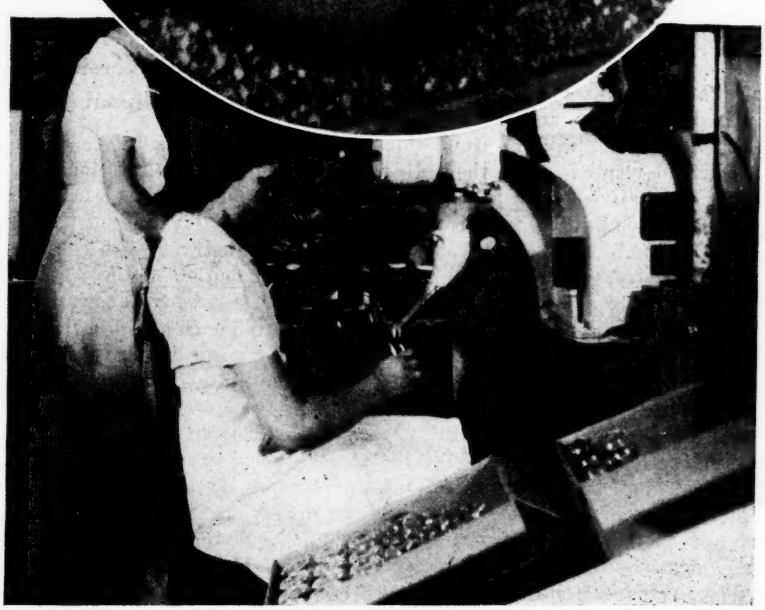
Not so many years ago peanuts were relative strangers in Georgia. Today they are second only to cotton as a source of agricultural income for the state. To hold this position, peanuts are grown in 47 counties.

To Georgians, a crop like this meant that something should be done about it. The South is the only section of the United States where peanuts can be grown successfully and it would be heaping folly on past follies to send them to other sections of the country for processing. Moreover, the uses to which peanuts may be put have multiplied in so many directions as to make them the Cinderella of all plants, and the value added to their worth by manufacture was something the South could not afford to fritter away.

Left—Ed Stevens, president, Dawson Cotton Oil Co.; Below—M. E. Williams (left), executive vice-president; E. J. Young (right), general manager. Right—C. M. Cruikshank, Jr., general manager, Cinderella Foods.

Right—Labelers at the Cinderella plant.

Circle—Handpicking peanuts in the shelling plant of Dawson Cotton Oil Co.



For the present there was nothing to worry about. The National Government would take all the peanuts that could be produced, and pay $175 a ton for them, a much higher price than has prevailed in normal peacetime trade, says Mr. Stevens. But when the war is over and oils from the Orient, which peanut oil now replaces, are again imported into this country there will be an entirely different situation. The citizens of Dawson were not content to wait until that condition would be thrust upon them. They knew that if they did there would come a time when their community would be milling around in confusion, not knowing what to do with its surplus raw materials. For them it was a time to make basic decisions and plan ahead for uninterrupted industrial activity. That was less than two years ago.

New business is not established by a wave of the hand. The business pioneer must decide first in what direction he will go; then how far he will go; and finally how to go about going. Each decision involves risk under the free enterprise system, and requires sound judgment in the beginning and courage for carry-through; but when these are observed, the reward is commensurate. The people of Dawson and the surrounding community had these decisions to make.

At this point Ed Stevens entered the picture. Already the principal stockholder of Dawson Cotton Oil Company, he conceived the vision of his community kept busy, not by one plant alone but by a group of enterprises that would be flexible for improvement and expansion under the free enterprise system. It was a vision of a business paying its own way and its owners a fair return on their investment; also of farmers receiving a good price for their peanut crops, of a community enjoying the advantages of value added by manufacture to its own product and of a South partaking of the fruits of its

(*Continued on page* 74)

Right—Filling jars from the spout of the peanut butter mill.

"Authorities" Deemed Socialistic

THE proposed Missouri Valley Authority has developed into a controversial matter of greater magnitude than the localized name may indicate. Since Leland Olds, Vice Chairman of the Federal Power Commission told the Washington Academy of Sciences that "the future quality of our culture and our civilization will depend in great measure upon our attitude toward our river basin resources," and was quoted in press releases from his office as advocating development of regional or valley authorities along the lines of TVA as a national "decentralizing" program, the MVA bill has transcended sectional interest. It has become a national storm center.

Advocates of a prompt return to normal peacetime operation of our free economic system were quick to note in the Vice Chairman's words: "promoting the creation throughout all parts of our land of a well balanced rural-industrial civilization," a socialistic scheme for remaking America to the pattern of European dictatorships. Carl L. Fredricksen, president of the Livestock National bank, Sioux City, Iowa, and chairman of the Missouri Valley Development Association told the Senate Sub-committee: "We earnestly plead that this committee will give an unfavorable report on Senate Bill 555, not because of our valley, but because it would establish a precedent for several other authority bills for all the valleys which cover the United States; a planned social experiment that would stun the American people, once they discover the reality, a plan that would make America not what she is capable of being."

Students of government who see in the MVA bill a scheme to transform America into the authoritarian form of government through the gradual creation of nation-wide "authorities" do not stand alone in their opposition to the bill. A strongly worded protest was filed by the National Rivers and Harbors Congress. This protest, countersigned by twenty associations and organizations which have long been engaged in reclamation, flood-control, navigation, and conservation, give eight grounds of objection; as follows:

1. Government agencies with wide experience in which the people have full confidence are eliminated entirely or relegated to minor roles.
2. An authority in form of a federal corporation would be free of many of the legal and congressional restraints which experience has demonstrated to be necessary in a democracy.
3. An authority casts the states in the role of archaic political units in the scheme of government, so that they become subservient to a corporate superstate controlled by three men.
4. Authorities would establish dictatorships over the basic resources of the area they control even though they may be of a benevolent nature.
5. In the arid states, where state law provides an irrigation water user a property right in water, he would, under an authority, become a water tenant of a corporation under rules and regulations made and enforced by it. Vested water rights heretofore secured under state laws would be subject to condemnation by the corporation at its option.
6. Industrial growth, individual enterprise, agricultural development, recreational facilities, and transportation, would be subject to the domination of a corporation clothed with the power of government, in full control of basic natural resources, including water, electric power, public lands, minerals, timber, etc.
7. Federal authorities are a dangerous welding of economic control and political power, which threaten interference in social and cultural activities.
8. Establishment of regional authorities not answerable to the Congress for the expenditure of their revenues would be a repudiation of the lessons of history. When we surrender "control of the purse" we surrender control over government.

Numerous influential members of the House and Senate have testified before the sub-committee in opposition to the proposed legislation. The record of their various statements serves to elucidate the eight objections of the National Rivers and Harbors Congress. Several of them have gone further. Congressman Andrew J. May, who is chairman of the House Military Affairs Committee, promised the sub-committee, "I will prove the TVA is a failure," and then proceed to show that the TVA as a flood control project has created "a flood menace"; as a soil conservation project it "has done more harm than it can ever possibly undo"; as a socializing institution it has proved harmfully "anti-social"; as a power project it is a perpetual "red ink bureau"; has not "bailed out" the nation from its wartime aluminum crises, clever propaganda to the contrary notwithstanding; and "last but not least" the authority type of federal agency is a misbegotten offspring of collectivist thinking by which our constitutional system is by-passed and set aside by an Authority with economic and political power beyond above and different from that of the individual states and the federal departments as envisaged in the Constitution. The path of authoritarianism leads to totalitarianism.

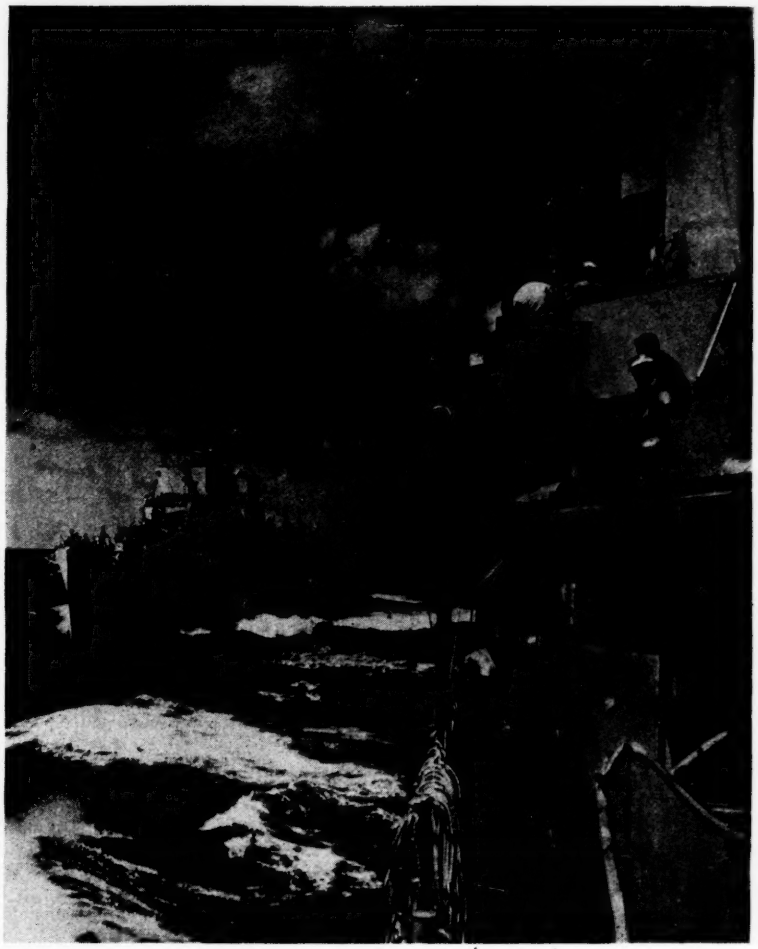
Railroad Reconversion Problem Colossal

SOUTHERN railroads are seldom mentioned in connection with reconversion. Yet their converting job is probably the most colossal of all industry. It is a constant job—and an endless one.

They not only convert to war performance and back again in times of peace—they are constantly converting in the interest of improved service, to keep step with changing conditions. One southern railway alone expects to spend $2,600,000 to put itself in better shape for postwar operation.

The Nashville, Chattanooga & St. Louis Railway, chartered one

(Continued on page 73)



The Coast Guard Celebrates

THE United States Coast Guard, the nation's oldest continuous military force, on August 4 completed 155 years' service, having enforced United States laws on the seas during nearly all our history as a republic.

As the nation's maritime police force, men of the Coast Guard in early wooden cutters swarmed over pirate ships for hand-to-hand fighting with cutlass and dirk; hunted the savage Seminole in Florida's Everglades; pursued gangster rum-runners during the era of the "noble experiment," and flew pursuit planes along our borders after smuggling aircraft. Fighting pirates, Indians and outlaws has not been the Guard's sole service to the nation—whalers trapped in the frozen Arctic, shipwrecked mariners, and pleasure-seekers at our beaches who ventured too far for safety, have been snatched from watery graves by the hardy men of the United States Coast Guard.

It is a far cry from an organization numbering a scant hundred men to one of 172,000—10,000 of whom are women—to an integrated fighting machine that is active in every theatre of war, guiding landing craft ashore to storm another Jap bastion; setting up buoys near others wrested from enemy control; depth bombing Nip submarines; reorganizing maritime activities along the water fronts of Europe; guiding operations of our inland waterways; landing a plane in the sea to rescue survivors of a torpedoed ship; speeding out in a crash boat to meet a plane being forced down by engine trouble—a few of the things that are a part of the day's routine for the Coast Guard in this war.

Normally a part of the Treasury Department, the Coast Guard fights as a branch of the United States Navy and is commanded by its own four-star Admiral, Russell R. Waesche. In addition to its record war time fleet of 755 cutters and 3,511 other craft, the Coast Guard is manning almost 600 Army and Navy vessels, including destroyers, destroyer escorts, troop transports and assault craft of varying sizes, from a small scout craft to the larger LST's with their battle cargoes of infantrymen, tanks, jeeps and field mortars.

Much of the Battle of the Atlantic was fought by the Coast Guard and its fighting power was added to all five European invasions from the sea—Africa, Sicily, Italy, Northern and Southern France, and all of the major Pacific invasions from Guadalcanal to Okinawa.

The first ship and first prisoners captured by the United States during this war were taken by Coast Guardsmen on the cutter Northland, who, on patrol around Greenland, seized the Nazi ship Busko, and sent it back to an American port. Shortly after seizing the Busko, some of the Northland's crew landed in Greenland and destroyed a Nazi weather reporting station, capturing the German operators. This occurred in September, 1941, three months before Pearl Harbor. The Coast Guard has been protecting the northern front in Greenland since the German occupation of Denmark in 1940 threatened Greenland's valuable cryolite mines, valuable in the manufacture of aluminum.

It was a Coast Guard cutter, the Icarus, that sunk the first German submarine in American coastal waters. In the spring of 1942 the Icarus blasted the Nazi undersea craft to the surface with depth charges and captured 33 prisoners, the first Nazis from a submarine to be captured by the United States during the war. Other Coast Guard cutters famous for U-boat warfare are the Spencer, Campbell, Duane, Ribb, Ingham, Taney, Northland, Dione, Dix Perseus, Argo, Travis, Lowe.

Invasion of enemy coasts is a specialty with the Coast Guard. Amphibious landing techniques are almost second nature to Guardsmen.

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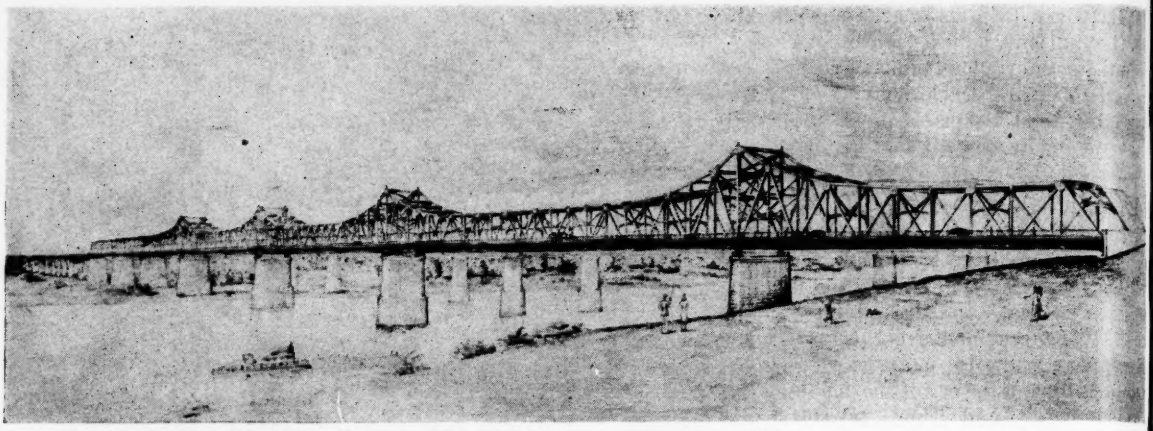


SOUTH'S CONSTRUCTION CONTRACTS RISE SIXTY PER CENT IN JULY

by

SAMUEL A. LAUVER

THE total of construction contracts awarded in the sixteen states below the Mason and Dixon line totaled $79,934,000 for July, passing the preceding month by $29,916,000, or by almost sixty per cent.

The $23,793,000 total for engineering construction was the highest since April of last year. July industrial awards totaling $19,998,000 bettered those for the two months immediately preceding. The $19,724,000 total for public building, the $12,920,000 for highway awards and the $3,499,000 for private building were higher than the June total, but lower than the figures for such work in May.

The seven-month total is $619,560,000, as compared with the $487,021,000 for the same period of last year. Industrial construction heads the list this year with $267,593,000 for the elapsed seven months. Last year's leader was public building with a total of $141,355,000. Public building this year is in second place with a total of $153,622,000. At this time last year, engineering construction was the second largest classification, the total being $132,103,000.

The increase in construction so far this year, as compared with the similar period of 1944, is seen as a prelude to the tremendous amount of construction to be undertaken when the war is concluded. Some idea of the backlog being built up by the growing need for new structures, both by private and public interests, may be judged by comparing the proposed work for July of this year with that for the same month of 1944. The figure for the current July is $206,290,000; that for July a year ago, $122,065,000.

The general attitude in construction circles has changed from that accompanied by restrictions and shortages of a dark period in the war to one of a rosier hue brought about by victory over one adversary and by removal of certain curbs, which although not comprehensive have served to create a more optimistic view for the coming peacetime job, which in some respects may almost equal its wartime problem of building industrial and military facilities of proportions before undreamed of.

The Department of Commerce predicts that construction for the twelve months of 1945 in the United States will be valued at $4,400,000,000, or twelve per cent more than the country's total for 1944. Southern construction so far amounts to over fourteen per cent of that figure. If activity in the remaining five months keeps up to the $88,000,000 average for the first seven months, the 1945 southern construction total will be above the billion dollar mark, with the further possibility of being swelled by part of the flood of work which may be unleashed by a victory in the Pacific.

Compared with July of 1944, the current July figure of $79,934,000 represents a drop, although it surpasses this year's January, May and June totals to place it fourth among the totals for the individual months. The February figure is highest with $130,823,000, followed in order by March, with its total of $105,628,000 and April's $104,050,000.

SOUTH'S CONSTRUCTION BY TYPES

	July, 1945		Contracts Awarded First Seven Months 1945	Contracts Awarded First Seven Months 1944
	Contracts Awarded	Contracts to be Awarded		
PRIVATE BUILDING				
Assembly (Churches, Theatres, Auditoriums, Fraternal)	$575,000	$5,339,000	$5,077,000	$2,649,000
Commercial (Stores, Restaurants, Filling Stations, Garages)	652,000	3,841,000	4,014,000	2,022,000
Residential (Apartments, Hotels, Dwellings)	1,937,000	10,093,000	20,403,000	33,102,000
Office	335,000	230,000	1,194,000	239,000
	$3,449,000	$19,503,000	$30,688,000	$38,012,000
INDUSTRIAL	$19,998,000	$27,197,000	$267,593,000	$120,054,000
PUBLIC BUILDING				
City, County, State, Federal, and Hospitals	$15,432,000	$46,450,000	$124,012,000	$91,798,000
Housing	796,000	956,000	15,052,000	40,410,000
Schools	3,496,000	27,136,000	14,558,000	9,147,000
	$19,724,000	$74,542,000	$153,622,000	$141,355,000
ENGINEERING				
Dams, Drainage, Earthwork, and Airports	$19,076,000	$13,076,000	$78,693,000	$114,757,000
Federal, County, Municipal Electric	1,449,000	24,033,000	5,039,000	600,000
Sewers and waterworks	3,268,000	16,343,000	22,711,000	16,746,000
	$23,793,000	$53,452,000	$106,443,000	$132,103,000
ROADS, STREETS AND BRIDGES	$12,920,000	$31,596,000	$61,214,000	$55,497,000
TOTAL	$79,934,000	$206,290,000	$619,560,000	$487,021,000

Top of Page—Merritt-Chapman & Scott Corp., New York, received the $4,333,174 contract for constructing the sub-structure of the $8,500,000 bridge to connect Tennessee and Arkansas banks of the Mississippi River. The project is being carried out jointly by the highway departments of the two states. Modjeski & Masters, Harrisburg, Pa., are the consulting engineers. The newly awarded contract covers the seven main piers and the Memphis anchor abutment.

July's industrial figure was a slight revival from a two-month trough during which such work in the South receded from the higher month totals earlier in the year, including February's $87,597,000, March's $56,951,000 and the $38,815,000 of April.

All classes of construction as assembled by *Manufacturers Record* participated in the July increase. Engineering awards showed the largest dollar increase—$11,578,000. Public building's increase was $7,017,000; highway construction's increase, $6,417,000; industrial building's increase, $4,790,000.

Viewed from a percentage angle, however, the increase in highway construction was the greatest, or ninety-eight per cent. The rise in engineering construction represented ninety-four per cent. Percentage increases in public building and engineering construction, as compared with the June figures, were fifty-five and thirty-one, respectively.

Pipeline construction was one of the substantial contributors to the July figure. The general contract was let for a $7,261,000 pipeline to stretch 142 miles from Carthage, Texas, to Monroe, La., for the United Gas Pipe Line Co. A contract let by the Florence Stove Co., Lewisburg, Tenn., was reported at $1,500,000. Another at Jackson, Miss., for Radio Cabinets Manufacturing, estimated at $1,300,000.

In the $400,000 and up bracket were projects such as the $427,000 contract let for expansion of the Rustless Iron & Steel Corporation's plant at Baltimore; the $426,000 Flintkote Company's plant at New Orleans, La.; the $400,000 warehouse at Tampa, Fla., for American Can Co., and a $400,000 carbon plant near Liberty, Texas, for Roxberry Steel Co.

Other large projects above the $100,000 mark included a $190,000 stove plant at Cleveland, Tenn., for Brown Stove Co.; a $135,000 locker plant at Springdale, Ark., for Springdale Ice and Cold Storage Co.; a large paper plant at Palatka, Fla., for Hudson Paper Company; a $109,000 plant at St. Louis, Mo., for Stout Sign Co.; a $154,000 project at Dallas, Texas, for the Better Monkey Grip Co.; and new facilities costing $123,000 at Garland, Texas, for Luscombe Airplane Corporation.

A rice plant at Jonesboro, Ark., is costing $200,000, while dairy construction costing $100,000 is being carried out at Miami, Fla., by Southern Dairies. L. B. Jackson & Co., started excavation for a $150,000 laundry at Knoxville, Tenn. O. B. Andrews Co., in that same city, plans a $200,000 paper mill. Equipment installations by the Poinsett Lumber & Manufacturing Co. and Singer Sewing Machine Co., Trumann, Ark., part of which are under way, will cost $200,000.

The Dallas News, Dallas, Texas, purchased a site for future expansion, the expenditure including the land to be around $2,000,000. Sherwin-Williams Co. proposes a $2,000,000 plant at Atlanta, Ga., General Motors Corp. is having plans prepared for a $375,000 addition in the same city. Florida Foods, Inc., proposed a $1,100,000 processing plant at Plymouth, Fla., to make citrus concentrates. Riegel Paper Co. plans a large paper plant on the Cape Fear River, near Acme, N. C.

Bush Insulating Co. obtained priorities for cold storage plants at Pahokee and Fort Myers, Fla., cost $177,000. Tennessee Products Corp., plans a $165,000 benzyl chloride plant at Chattanooga, Tenn. A construction program for the Southern Main Baking Co., Waco Texas, involves about $170,000. National Cylinder Gas Co. scheduled plans for a $100,000 oxygen plant.

Willis Gregory, Florence, S. C., announced a proposal to build a freezer plant with 600 lockers. Theobald Industries will erect a $250,000 fat and tallow plant at Miami, Fla. Bendix Aviation Corp., Towson, Md., will spend $300,000 for expansion. Dixie Peanut Co., Williamston, N. C., plans a $100,000 peanut plant and storage warehouse.

Rheem Manufacturing Co., Birmingham, Ala., will spend $500,000 in preparation for post-war activity. Sheet Metal Specialties Co., Follansbee, W. Va., plans a $250,000 expansion. An automobile sales building proposed by Hemphill Pontiac Co., Goose Creek, Texas, will cost $100,000, as will a project for Steadman Co., at Lake Charles, La., including a warehouse and cold storage plant.

SOUTHERN CONSTRUCTION BY STATES

	July, 1945 Contracts Awarded	July, 1945 Contracts to be Awarded	Contracts Awarded First Seven Months 1945	Contracts Awarded First Seven Months 1944
Alabama	$1,218,000	$5,057,000	$91,476,000	$25,359,000
Arkansas	1,036,000	3,798,000	5,537,000	2,441,000
Dist. of Col.	1,225,000	555,000	22,434,000	14,056,000
Florida	6,843,000	18,985,000	41,714,000	61,807,000
Georgia	2,064,000	17,224,000	20,321,000	27,069,000
Kentucky	1,339,000	2,915,000	11,187,000	16,898,000
Louisiana	7,444,000	21,368,000	35,836,000	34,523,000
Maryland	5,498,000	7,010,000	34,728,000	41,373,000
Mississippi	7,446,000	3,630,000	25,002,000	9,605,000
Missouri	2,022,000	12,949,000	11,900,000	33,608,000
N. Carolina	4,687,000	9,794,000	22,365,000	16,383,000
Oklahoma	2,698,000	16,614,000	19,436,000	16,890,000
S. Carolina	1,384,000	6,394,000	7,726,000	15,466,000
Tennessee	6,855,000	8,848,000	31,418,000	17,654,000
Texas	24,265,000	61,390,000	195,334,000	84,018,000
Virginia	2,806,000	7,738,000	34,111,000	57,076,000
W. Virginia	1,104,000	2,021,000	9,035,000	12,395,000
TOTAL	$79,934,000	$206,290,000	$619,560,000	$487,021,000

Below—The Cahaba River bridge built by the Central of Georgia Railway has been in use for several months. Replacing an old bridge about 250 feet upstream, the new span is 408 feet long and consists of five deck plate girder spans on concrete piers and abutments. Its E-72 load design will enable it to carry the largest locomotives, both now in existence and in the future. The piers and abutments were built by W. J. Tidwell, Jr., of Douglasville, Ga. Plate girder spans were fabricated at Birmingham and erected by the Virginia Bridge Co., which also dismantled the old bridge. The project was under supervision of K. L. Wise, assistant engineer for the Central of Georgia.

INDUSTRIAL

(Including Private Utilities)

	July, 1945 Contracts Awarded	July, 1945 Contracts to be Awarded	Contracts Awarded First Seven Months 1945
Alabama	$280,000	$775,000	$67,439,000
Arkansas	390,000	325,000	1,645,000
Dist. of Col.	.....	.....	1,293,000
Florida	1,676,000	5,754,000	8,765,000
Georgia	230,000	2,895,000	4,070,000
Kentucky	150,000	60,000	2,405,000
Louisiana	3,479,000	3,270,000	22,262,000
Maryland	645,000	937,000	4,399,000
Mississippi	1,660,000	275,000	7,184,000
Missouri	1,018,000	485,000	3,314,000
N. Carolina	613,000	1,985,000	3,262,000
Oklahoma	35,000	60,000	3,225,000
S. Carolina	164,000	590,000	2,134,000
Tennessee	2,049,000	860,000	17,876,000
Texas	7,438,000	7,871,000	109,421,000
Virginia	136,000	805,000	7,102,000
W. Virginia	35,000	250,000	1,797,000
TOTAL	$19,998,000	$27,197,000	$267,593,000

THE SIXTY MILLION JOBS

by
James F. Lincoln
President,
Lincoln Electric Company

WE have a question facing us of about 60 million jobs—at least that is what we are told. And we think it is going to be quite a difficult matter to get these 60 million jobs. In fact, a great many people think it is going to be a difficult matter to get the 60 million people to fill them.

If we are going to think of a job as simply a piece of work, there are 100 million jobs available in the United States today, and always have been. For instance, every single person in the United States could go onto a farm and merely raise stuff for himself. That could be done. What's more, some two or three hundred years ago, that is what we all did. Those people never talked about jobs. They kicked like the dickens because of the fact that they had to work so long, but there never was a time when they didn't have jobs.

At the present time I think we feel that "job" means something other than merely a piece of work. For instance, there are a great many things which many people would like to do; but there are rules against them. The union has very definite ideas on who shall work at a certain job and who shall not. Certainly the employer has very definite ideas in connection with it also. He wants a man of certain skills for certain work. In the same connection, there is a tremendous amount of work in this country that cannot be paid for at the minimum wage. One of these is to filter the top soil out of the Mississippi River and return it to the land. That is obviously a very creditable thing to do; it would be a good thing for the Mississippi and a good thing for the land, but we have not found a way to pay minimum wages for doing that. Therefore; it is perfectly obvious that what we are talking about is not 60 million jobs at all; but what we are talking about is something entirely different than jobs.

Don't forget the fundamental fact that all progress in industry—and we think of industry when we think of 60 million jobs, although we ought not to—is made in only one way, and that is by eliminating jobs, not making them. If only industry could eliminate half of the jobs that are necessary in order to produce the things which we make today, the standard of living of every man, woman and child would be doubled by it. The most important thing we have to do is to eliminate jobs.

There is another thing that comes in there. No one wants a job just because he wants to work. If he did, he would go out and do these various things for which he could not get paid but which would be a fine thing for the country. It is not work of itself that he wants; he wants something entirely different. What

James F. Lincoln

we are after, actually, is a standard of living.

That is an entirely different question, but it is the thing I think we want to discuss. How do we make a standard of living? There are two well-known ways at present. One of them is to go to the government and say: "It's your job to give everybody a living." That is rather popular at this time. Another way is to go to private enterprise and say: Do we want it by government or do we want it by individual effort? That is the real question that is facing us.

The success of private enterprise depends on one thing and one thing only. That is a man with an idea for a new industry. Every successful enterprise is the result of a man with an idea who has taken his idea and with his ability, determination, hard work and careful living has been able to develop that idea into a useful thing to the world generally.

The fellow who makes this idea work and becomes so useful to mankind is that individual who develops his latent capabilities. That cannot be done in any other atmosphere than that of freedom. Latent capabilities cannot be developed by force. When there are men in an organization who are anxious to do the best they can, give them the incentive to do the best they can, give them the opportunity to develop those latent opportunities God put in them when he created them. Then see what happens.

That problem has been approached in that way in our own company.

We have, over the last 12 years, been able to increase the output per man—and remember, we are manufacturing the same thing now as we did then—by more than 12 times. We have increased the man's income by more than four times. We have reduced the selling price of the product by more than 60 per cent. And here is the most important thing, from the point of view of 60 million jobs, the number of people employed has increased by more than three times.

It is perfectly obvious why that should occur. You know perfectly well that the selling price determines the amount of any useful product that is going to be used. There is the whole philosophy of a high standard of living. There is the whole reason why American industry has made such tremendous strides. There is the reason, also, that from all the world, the pioneers have been drawn to the United States. Here was the opportunity to develop those latent capabilities which they did not have the freedom in their own countries to develop.

(Continued on page 72)

Potential Texas Industries

TEXAS has at least six great potentialities for future commercial and industrial development, says Dean W. R. Woolrich, director of the University of Texas Bureau of Engineering Research.

"These potentialities are chemical production, the marine food industry, growing of fruits and vegetables in the Rio Grande Valley, petroleum and natural gas production, development of ceramics, and commercial use of lignite."

The University of Texas, through its various research bureaus is conducting investigations designed to make possible the development of all six of these industries.

The Bureau of Engineering Research is working specifically on the projects aimed at aiding the marine food industry, the food and vegetable industries, the petroleum inustry, and the lignite industry, while other University bureaus are tackling some of the problems of the other potential industries.

Dean Woolrich pointed out that Southeast Texas is one of the most important chemical production areas of the nation.

"Within five years the investment in chemical industry in Texas has increased over 6,000 per cent, and much of it bids to be permanent."

In the Gulf of Mexico, the director said, Texas has one of the great potential marine food industries on this continent—and it has hardly been disturbed. With the advent of quick freezing mechanism is available for a very extensive marine food industry for tomorrow, he believes.

For the past several years, Dean Woolrich and Dr. Luis H. Bartlett have been tackling the problem of developing a low-cost highly efficient flash-freeze process which, among other uses, would provide the technique for large-scale commercial utilization of the vast seafood resources in the Gulf of Mexico off the Texas coast. One model of this new and improved quick freeze machine was developed by Bartlett in 1941 and has been tested in commercial fruit and vegetable plants and is now being used on a limited license by a railway company in transporting refrigerated foods.

This unit—small, compact, portable—reduced construction costs, operating costs and freezing time to a fraction of that required in the ordinary quick freeze processes currently in use. Freezing time alone was cut from a matter of hours to instantanteous proportions.

For the past year Bartlett has been engaged in building another freezing unit embodying freezing principles which are even more efficient than his earlier model. Concurrently with the invention of the machine, Bartlett developed freezing fluids including a "sweet syrup," for fruits, and a brine for meats, seafoods and vegetables.

A highly significant aspect of the University process is the fact that by instantaneous freezing the formation of ice crystals within the cells of the food—which under ordinary freezing processes causes deterioration—is avoided.

Closely relating to the quick freeze technique is the Bureau's work in specific heats in all kinds of food materials, conducted by Dr. Byron Short, professor of mechanical engineering.

Each food—strawberries, grapes, ham, eggs, shrimp, ice cream, lima beans, tomatoes, etc.—has its own specific heat, which may be loosely defined as the quantity of heat removed when the temperature of one pound of foodstuff is reduced one degree.

The determination of this "specific heat" for any particular foodstuff is extremely valuable in determining the freezing time necessary to freeze that particular food.

Dr. Short's investigations on "specific heat" have been recognized by the American Society of Refrigerating Engineers and that organization has advanced funds for his continued study of heat characteristics of marine foods on the Texas coast.

While Bartlett's flash-freeze invention is destined to aid Rio Grande fruit and vegetable growers to preserve their products and provide a wider market for them as well as for Gulf seafood, another Bureau of Engineering Research project will assist the crop-growers of the Rio Grande Valley and other sections of the State to improve in production techniques.

Testing water pressure under varying patterns of inlets and outlets, and with varying lengths and sizes of pipes has been the work of Professor Q. B. Graves. He has done the work to help Texas cities economize on installation and replacement of water mains.

"The entire state needs to put its shoulder to the wheel to give the Rio Grande Valley area sufficient water to develop to maximum effectiveness," Dean Woolrich emphasized. "At the present time it is the Rio Grande Valley fighting a battle against the entire State of California."

Petroleum engineering research is an important phase of the Bureau's program, and work by H. H. Power, professor of petroleum engineering, in the deterioration of gasoline, has become of national significance.

A project being eyed by the oil industry of Texas and other oil producing states is that which Professor Power and F. B. Plummer, geologist, Bureau of Economic Geology, are conducting on re-injection of water to the ground from an oil well.

The disposal of salt water after it has served its original purpose of providing the pressure to lift the oil from the ground is one that has been of deep concern to the oil industry.

In recent years the device of re-injecting this water into the ground—both to remove its contaminating influence from surface streams, crop-lands, etc., and to re-use its lifting power in the underground oil pool—has attracted considerable attention.

It has been widely adopted in the gigantic East Texas oil fields and an association of East Texas representatives of the oil industry, the East Texas Salt Water Disposal Corporation, has asked the University to undertake scientific laboratory investigation of this problem to parallel the practical application of salt water re-injection in the field.

Still another great possibility for Texas is development of commercial use of lignite. Experiments with lignite, a soft coal which has not had any great use because it crumbles and is reduced in weight by lengthy exposure to atmosphere, have been made by Professor C. J. Eckhardt, of the mechanical engineering department.

It has been estimated that there are 23 billion tons of lignite in reserve in Texas.

Mr. Eckhardt has studied the reaction of lignite under varying storage conditions, with the purpose of using it as a source for power-generating and industrial purposes, for the manufacture of gaseous fuels, and for the manufacture of liquid fuels.

A number of other research projects of significance to industry and to the welfare, comfort, and convenience of the citizenry of Texas are being carried on by the Bureau of Engineering Research.

Analysis of all types of substances—metals, germs, chemicals, etc.—will be immensely facilitated at the University by means of a new electron microscope, acquired this month.

To be used in conjunction with the University's two-year-old spectrographic laboratory, the electron microscope—which magnifies an object to 100,000 times its normal size—will be under the direction of C. Read Granverry and L. L. Antes of the electrical engineering department, but will be used by chemists, bacteriologists and botanists, physicists, engineers, and geologists. A short course for the staff members of the various departments which will use the microscope will be held soon, Prof. Granberry said.

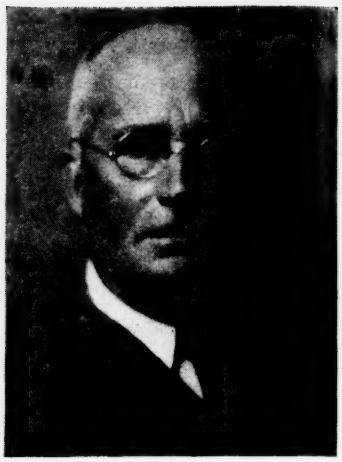
Purchased largely with funds appropriated especially for the purpose by the 48th Legislature, the instrument—one of nine improved models manufactured in the last year, and the only one owned by any college or other institution in the entire South—has also been partly financed by the University Research Institute.

In the field of mechanics, Dr. Dana Young, professor of civil engineering, is studying the problems of vibrations in buildings, engines, and ships, and certain industries. Full details of his work cannot be released because of military secrecy.

Work with soils and soil stabilization is still another important function of the bureau. R. F. Dawson, associate professor of civil engineering, carries on a series of tests constantly to determine soils and soil stabilization in Texas. This work being done at University is of the

(*Continued on page 70*)

Sun Oil Official Optimistic On Available Petroleum



J. Edgar Pew

AMPLE petroleum resources will be available to the United States in war or peace for generations to come.

This reassuring prediction of J. Edgar Pew, vice president of the Sun Oil Company, is of particular interest to the South which produces 60 per cent of the nation's crude oil. It answers frequently heard suggestions that America faces a nearly petroleum famine.

This optimistic viewpoint is backed up by the fact that the United States has wound up with a 20-billion barrel "stockpile" of underground proved reserves after supplying over seven billion barrels to meet unprecedented war demands during the past five years.

This vast quantity of reserves, moreover, represents but a small part of the nation's total petroleum resources. In addition to proved reserves of oil in the ground sources for synthetic processing can provide even vaster quantities. It is estimated that 17 billion barrels of hydrocarbon products could be derived from known reserves of natural gas; 92 billion barrels from shale deposits; and over a trillion and a half barrels from coal and lignite.

The message is doubly reassuring when viewed in the light of the certainty that further vast amounts of gasoline and lubricating oils must be consumed to complete the winning of the war.

No industry has been more vital to the war than the oil industry. The present war is a machine war and petroleum has fueled and lubricated practically the entire war machine. It has well been said that America is flying to victory on the wings of petroleum—rolling to victory on the wheels of petroleum. When the German general Von Runstedt, attributed the defeat of the Nazis largely to lack of gasoline, he lent emphasis to the fact that in time of war, oil is ammunition and any nation without an ample supply for war purposes is doomed to defeat in advance. Luckily the United States had both the pools of oil and the equipment to produce it. As a result, 85 per cent of the world's production of aviation gasoline comes from American refineries as well as millions of gallons of other products. Without this great American industry victory in all probability would have been long delayed.

A generation ago, petroleum was considered only as a source of illumination and lubrication. Today it is a giant resource of transportation and power. Without it there would have been no automobile industry, no aircraft industry. The major role petroleum is playing in the war will continue into the peace era that will follow, and it is little wonder that many Americans should feel concern over the possibility of waning oil supply. But the stirring of needless alarm should be avoided. From the discovery of the first oil well in the United States in 1859, there have been many unfounded predictions of vanishing oil resources.

Mr. Pew's forecast appears well-grounded in fact. It is based upon the annual computations made by the Committee on Petroleum Reserves of the American Petroleum Institute. This committee estimated the proved reserves on December 31, 1944 at 20,453,231,000 barrels. This is the largest volume of estimated proved reserves in the country's history—two billion barrels greater than at the end of 1939 when war demand became a vital factor. Discoveries of proved reserves over the five war years amounted to 9,293,000,000 barrels. Throughout all the years of the war, except one, additions to discoveries have exceeded annual production, and in that one exceptional year, 1943, the deficiency was small, only 18 million barrels.

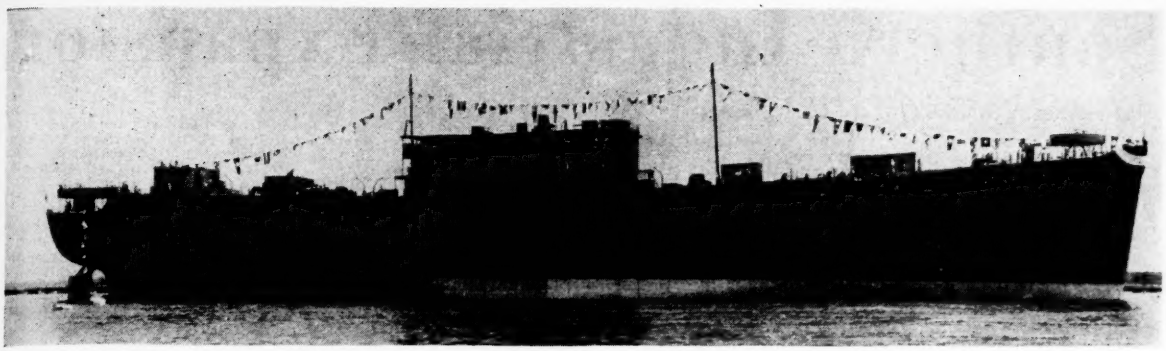
To meet the requirements of war, production has also been stepped up. The Elk Hills Naval Reserve, created in 1912 by President Taft as a future oil source for the Navy, now is producing at the rate of 53,000 barrels a day, with only about half of the 43,000 acres in the reserve being drilled. In all, the United States produced nearly 71 billion gallons of crude in 1944, setting a new record for the country. This is approximately 42 million gallons a day higher than the prewar level. Worldwide oil requirements of all the United Nations today exceed 225 million gallons daily, and of this the United States supplies 69 per cent. South America contributes 14 per cent; Russia, nine per cent; and the Middle East, seven per cent.

While military demands for oil and gasoline have fallen off in Europe since the Nazi collapse, the war in the Pacific is growing in intensity. For fighting the Japs, emphasis has been, up to now, largely on fuel oil for the Navy and Merchant Marine. But the outlook for 1,000-plane raids by Superforts on the Japanese homeland indicates there will be a call for even vaster quantities of aviation gasoline than were used over Europe at the peak of that campaign.

The war has exacted and will continue to exact great demand. But the position of the oil industry in the United States remains unimpaired. The total area of the United States covered by oil and gas fields is approximately 26,000 square miles. About one-third is productive of oil.

No accurate estimate can be made of crude oil which subsequent drilling will make available but past per-

(*Continued on page* 70)



Above—The $10,000,000 Destroyer Tender U. S. S. Tidewater.

CHARLESTON'S BIGGEST SHIP LAUNCHED BY NAVY

Above—Bow-on view of the largest ship launched at the Charleston Navy Yard. She is 492 feet long, 70 feet across the beam, has a gross tonngae of 8,000 tons, a displacement of 17,000 tons when loaded.

Below—Mrs. Robert N. Scott Baker, wife of the Navy captain who is the yard's industrial manager, was the sponsor. Rear Admiral Jules James, Commandant of the Sixth Naval District, is in the background.

THE Charleston Navy Yard recently launched its largest ship, the $10,000,000 destroyer tender U. S. S. Tidewater, whose 492-foot length is tremendous compared with the smaller LSM's, which lately have made up most of the yard's production.

Due to the vessel's size, a special snubbing gear was used for the first time at the Charleston yard to prevent her from beaching on the opposite bank of the Cooper River. The launching marked the first time the yard's personnel had to cope with such a problem.

A two-inch wire rope was attached to the ship's stern. The rope stretched from that point to several 50-gallon watertight drums to keep it afloat to two piles of anchor chain —one weighing 25 tons, the other, 20 tons. The line was then secured to three anchors, ranging from 1,000 to 1,800 tons.

When the Tidewater slid from the ways and floated to a point approximately in midstream, the slack of the rope was taken up by the pull on the anchor chains, causing her to swing slightly around. More strain brought by the weight of the anchors brought the ship parallel to the river's course, which point, incidentally, is the deepest.

Ordinarily, 150 workers are sufficient to launch a medium landing ship at the Charleston yard. The Tidewater required 800 for the short journey down the ways. The greased surface of the ground ways was 88 inches wide, as compared with the 20-inch ways used for the LSM's. Eighteen thousand pounds of grease were needed for the event.

The Tidewater had been under construction since November 27, 1944, when the first arc on the keel was struck by Rear Admiral Jules James, commandant of the Sixth Naval District, assisted by Mrs. James and Janet Blair, motion picture actress. More than 116,000 mandays were expended in her construction. At the peak of the work, more than 1,400 shipbuilders were at work.

A large amount of pre-construction planning went into the Tidewater. Specifications for each construction unit had to be determined. It was necessary to ascertain what units should be made in the Yard and what units should be sub-contracted. Each unit was then assigned a definite erection date and this schedule was followed as closely as manpower and production permitted.

Steadily, the Tidewater began to take shape. Units began arriving in the yard by rail, truck, barge, and lighter from the four sub-contractors, and like the pieces of a jig-saw puzzle, these were combined with the units made by the shipbuilders of the Charleston Navy Yard.

Approximately 25 percent of the hull structure was built by four subcontractors. These were Carolina Industries, Inc., Sumter, S. C.; Dave Steel Co., Asheville, N. C.; Gary Steel Products Co., Norfolk, Va.;

(Continued on page 70)

Southern Industrial Expansion

Chesapeake & Ohio Railway Co., Cleveland, Ohio, placed an order with Edward G. Budd Manufacturing Co., Philadelphia, Pa. for 2 streamlined trains for post war service between Washington and Cincinnati; trains will be powered by a revolutionary type of coal-turbine steam turbine electrically driven locomotive, three of which are now under construction.

ALABAMA

BIRMINGHAM — Buildings—Contract let for construction of office and plant building, for Alabama Outdoor Advertising Co.

BIRMINGHAM—Expansion—Board of Directors of Rheem Manufacturing Co. authorized expenditure of $500,000 immediately for post-war expansion; equipment being purchased.

CULLMAN — Factory—Holeproof Hosiery Co., plans construction of branch factory.

DECATUR — Cold Storage—Cold storage plant planned for Loving Produce Co.; 3 cold storage rooms.

DOTHAN—Railroad Station—Atlanta and St. Andrews Bay Railway Co., will build railroad station, cost approximately $40,000.

GADSDEN — Mill Building Alterations—Contract let at $20,000 for construction of alterations to Sanguoit Spinning Mills.

GREENVILLE—Electric Line—Contract is let at $128,000 for electric line for Pioneer Electric Cooperative.

HUNTSVILLE—Plant—John Blue Co., will move plant from Laurinburg, N .C., company will construct complete gray iron foundry facilities and extend existing railroad facilities; cost approximately $60,000.

MUSCLE SHOALS—Office Building—TVA., David Lilienthal, Washington, D. C., contemplates erection of headquarters building; cost $1,225,000.

ARKANSAS

BENTONVILLE — Plant—National Dairy Products Corp., 230 Park Ave., New York City, Kraft Cheese Unit, will construct $100,000 plant, under plans authorized by War Production Board.

HELENA—Gas System—Arkansas Utilities Co. filed application with State Public Service Commission, Little Rock, to operate a propane gas system; change over to cost $30,000.

WYNNE — Canning Factory — John W. Surginer will erect canning factory as soon as application for restricted material is approved by War Production Board; capacity of 1,000 cases in eight hours.

JONESBORO — Plant—Walridge Knitting Mills, Helena, will establish hosiery manufacturing plant in the McAdams building.

JONESBORO — Rice Drying Plant—Contract let for construction of $200,000 rice drying plant to have storage capacity of 200,000 bushels and drying capacity of 48,000 bushels per day.

MONTICELLO — Plant—Fordyce Bottling Co., will expend $50,000 for remodeling building on East Gaines Street and installing soda water bottling plant; capacity 1,000 cases per day.

TRUMANN—Equipment—Poinsett Lumber & Manufacturing Co. is installing $50,000 of new equipment and its parent concern, Singer Sewing Machine Co. has authorized installation of an additional $150,000 worth of equipment for post war expansion.

FLORIDA

BELLE GLADE—Plant—W. E. Weeks will erect $17,000 quick freeze plant.

BELLE GLADE—Plant—H. B. Borchardt has permit to erect a $50,000 packing plant and precooler.

BELLE GLADE — Plant—American Fruit Packers Corp. has permit to erect $40,000 packing plant.

BELLE GLADE — Plant—Harold Rabin, Lessee of Lord Packing Co. will erect $25,000 addition.

CHIEFLAND — Electric—Central Florida Electric Cooperative, Inc., has REA allotment of $50,000 for electric distribution facilities.

FLORIDA — Processing Plant — Florida Ramie Products, Inc., reported plans construction of fibre processing plants at various locations in Florida, cost $1,500,000.

JACKSONVILLE — Plant — Halvorfold Kwikprint Company, Chicago, Ill., completed preliminary arrangements to open a plant in city; leased space from Union Terminal Warehouse Company; The Chicago machine plant will be moved to Jacksonville to manufacture "Kwikprint Goldstamping Machines."

LAKELAND—Factory—Fred Haley plans erecting $10,000 plant for manufacture of toys.

MIAMI—Plant—B. B. Lotspeich has permit for erection of processing plant; cost $11,500.

MIAMI—Warehouse—Ryder Trucking Co. has plans for $50,000 warehouse.

MIAMI — Warehouse—Linde Air Products Co,. New York City, let contract for warehouse and facilities, N. W. South River Drive.

MIAMI — Plant—Theobald Industries of Kearny, New Jersey, will erect $250,000 plant for processing animal fats and tallows.

MOORE HAVEN — Distribution System — Glades Electric Cooperative, Inc., receives bids for construction, including supply of necessary labor, materials and equipment for approximately 150 miles, rural electric distribution project, located in Glades, Hendry and Highland Counties.

OCALA — Plant—Ace Co., Don Campbell, will establish a plant to manufacture blowers and commercial vacuum cleaners.

PALATKA — Plant—Hudson Paper Co., New York, will erect pulp plant.

PLYMOUTH—Plant—Florida Foods, Inc., plans erecting $1,100,000 processing plant at Plymouth, near Apopka for manufacture of citrus concentrates.

TAMPA — Warehouse—American Can Co., New York, let contract for construction of warehouse, cost $400,000.

TAMPA—Plant—Continental Can Co. has priorities clearing way for construction of a $745,000 addition to its present plant to start within 30 days.

WAUCHULA — Addition—H. L. Miller, Propr., of Peace River Canning Co., plans $100,000 addition.

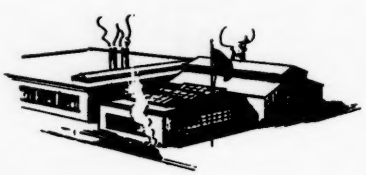
GEORGIA

ATLANTA—Addition—Atlanta Division of General Motors Corp., plans addition and alteration to plant on McDonough Blvd.; cost $375,000.

ATLANTA—Gas Plant—National Cylinder Gas Co., has scheduled plans for construction of a $100,000 oxygen manufacturing plant.

ATLANTA — Plant—Frozen Sweets, Inc., Sylacauga, Ala., plans construction of ice cream plant; cost $25,000.

ATLANTA — Plant—Sherwin-Williams Co. plan construction of manufacturing plant,



cost approximately $2,000,000; to consist of plant, warehouse and sales offices.

ATLANTA — Warehouse—Southern States Chemical Corp., having plans prepared for office building and warehouse; cost $60,000.

BRUNSWICK — Cold Storage Plant—Sam L. Lewis, plans construction of 4-story cold storage plant.

DUBLIN—Lines—Oconee Electric Membership Corporation of Laurens County, has grant of $175,000 for additional electric lines; 163 miles of power lines in portion of Laurens, Wilkinson, Twiggs and Bleckley counties.

HAWKINSVILLE—Plant—C. B. Adams interested in erection of freezer plant to include an abattoir, processing room, etc.

MARIETTA — Building—Dwight Vaughn, soon call for bids for construction of sales and work shop.

PEARSON—Rebuilding—Pearson Processing Co., plans rebuilding burned plant, as soon as materials and equipment can be secured; Peninsular-Lurton Co., Pensacola, owners.

SANDERSVILLE — Extensions — Washington County REA has $140,000 allotment by RFC for major extensions to present system.

VIDALIA—Stock Yards—Herbert F. Allen acquired property and business of Vidalia Livestock Yards from McNatt Livestock Co.

KENTUCKY

GEORGETOWN—Plant—V. D. Rider & Associates, will operate new pencil factory; begin about October 1.

LETCHER — Packing Plant—Wardrup Packing Co., of Harlan, completing new slaughtering and packing plant at Letcher in southern Letcher County.

LOUSIVILLE — Equipment—Louisville & Nashville Railroad Co. plans expending $27,000,000 for new equipment; will purchase 16 diesel locomotives, 1,000 coal cars and 1,000 boxcars for L. & N. lines at New Orleans, Mobile and Pensacola; 300 boxcars and 3,000 coal cars are to be purchased for the Clinchfield Railroad, a subsidiary of L. & N.

LOUISIANA

NEW ORLEANS—Plant—Southern Pecan Co. plans fireproof; verminproof; air conditioned office and pecan factory; install cold storage plant.

ST. BERNARD—Plant—St. Bernard Cooperative Creamery, Inc., Ernest J. Ricaud, Pres. plans erecting creamery.

MARYLAND

BALTIMORE — Shop — Contract is let for construction of auto repair shop for G. W. Carstens, Jr., cost $30,000.

BALTIMORE — Expansions—Crown Cork and Seal Co. will make floor and structural changes under reconversion and rehabilitation program.

BALTIMORE—Addition—Dravo Corp. has contract for boiler house addition for U. S. Industrial Chemical Co., Curtis Bay; cost $100,000.

BALTIMORE — Sawmill — Weyerhauser Timber Co., Curtis Bay, will construct timber resaw mill to cost $40,000.

BALTIMORE — Cars—Baltimore & Ohio Railroad Company, Roy B. White, President, plans purchasing approximately 2,000 steel hopper cars of 50-ton capacity.

BALTIMORE—Garage, Etc.—J. V. Cataneo will construct garage, office and warehouse, to cost $30,000.

CUMBERLAND — Expansion — Cement Products Co. plans expenditure of $30,000 for improvement; construct block plant, cost $15,000, convert present office space to store room and add batching plant.

TOWSON — Expansion Bendix Aviation Corp., Ernest R. Breech, President, plans expansion of plant in Towson at estimated cost of $300,000.

MISSISSIPPI

MISSISSIPPI — Elevators — Contract has been let to erect three bulk grain elevators in Mississippi for Quaker Oats Co. at Clarksdale, Greenville and Drew.

CORINTH — Radio Station—Federal Communications Commission, granted construction permit to Corinth Broadcasting Co., Inc., for a broadcast station.

DREW—Factory—John Kimball, director of state agricultural and industrial board issued a certificate of convenience and necessity to town to vote on $100,000 bonds to provide funds to erect a building for Mississippi garment manufacturer.

GRENADA—Additions—Construction of an addition to garment plant of Grenada Industries, cost $75,000, is planned.

JACKSON—Building—New sales and service building planned for Standard Auto Sales Co., estimated cost $40,000.

JACKSON — Building — Construction of a commercial building for Jackson Blue Print Shop, cost approximately $20,000; will soon begin.

JACKSON—Building—Final plans are in progress for construction of a new four-story concrete office building to cost approximately $200,000, for Ross Barnette.

JACKSON—Building—Contract for building addition for Townsend Paper Co. has been let.

JACKSON — Manufacturing Plant—Contract has been let at approximately $1,300,000 for construction of manufacturing plant for radio cabinet manufacturing.

QUITMAN—Hosiery—Plans are in progress for construction of hosiery plant building for Holeproof Hosiery Co. of Milwaukee, Wisc.

MISSOURI

CLAYTON—Building—Clayton Motor Co., will erect auto sales and service building.

KANSAS CITY—Building—The Seiberling Tire and Rubber Co., plans construction of New Office and warehouse.

KANSAS CITY — Building—Hiram Elliott Construction is erecting one story warehouse type building for North Kansas City Development Co.

ST. LOUIS—Buildings—Meletio Sea Food Co., purchased two buildings at southeast corner of Sixth St. and Franklin Ave., and plan remodeling; estimated cost $70,000.

ST. LOUIS—Building—Thomas J. Sheehan Co. has let contract at $17,775 for storage building.

ST. LOUIS—Missouri Pacific Railroad and

Texas & Pacific Railroad, ordered 7 diesel electric locomotives and 100 lightweight cars at cost of $12,000,000; four 4000 horsepower and three 2000 horsepower diesel electric locomotives, all except one for the Missouri Pacific, have been ordered from Electro Motive Corp., La Grange, Ill.; of the 100 cars ordered, 47 will be sleeping cars built by Pullman Manufacturing Co., Chicago; other cars built by American Car and Foundry Co.

ST. LOUIS—Expansion—Atchison Topeka and Santa Fe Railroad, will expend $10,000,000 to rehabilitate railroad properties from Kansas City to St. Louis, if expansion plan is approved by Interstate Commerce Commission.

ST. LOUIS — Factory—Barry-Wehmiller Machinery Co. has plans for factory; cost $250,000.

NORTH CAROLINA

ASHEVILLE—Plant—Farmers Federal Inc. plans construction of addition and alterations to present three-story building.

ASHEVILLE — Rayon Finishing Mill—Clearwater Manufacturing Co., Division of United Merchants & Manufacturers Management Corp., New York City, wrecking present building and have applied to WPB for authority to construct $1,250,000 rayon finishing mill in Asheville.

BLOWING ROCK — Power — Blue Ridge Electric Membership Corp., has been alloted $260,000 by REA to be used for construction of 44,000 volt transmission line from Lenoir through Blowing Dock to Boone.

CHARLOTTE — Shop — contract has been let at $29,000 for shop and warehouse for Kanoy Knape, Inc.

CHARLOTTE—Expansion—Arnold, Hoffman and Company, Inc., manufacturer of textile specialties, has plans for $300,000 expansion.

CHARLOTTE — Plant—Package Products Co., formed by J. H. Jordan, and associates, with $100,000 capital stock to specialize in printing by newly developed equipment on cellophane and glassine.

DURHAM—Plant—C. W. Tilson, general manager of Durham Farmers Mutual Exchange, plans immediate construction of modern quick freeze locker and cold storage plant.

DURHAM—Station—Southern Dairies, Inc., plans frozen food distribution station.

ENKA—Extension—American Enka Corp., has let contract for extension to main building.

GOLDSBORO — Alterations — Goldsboro Milling Co., has permission to make alterations to structures to cost $10,000; buildings will be used by Diamond Feed Co.

HIGH POINT—Plant—Contract has been let at $55,000 for ice cream manufacturing plant for S. D. Gibson, Jr.

MOCKSVILLE—Lines—Davie Corporation has REA loan of $331,000 to construct 295 miles of line.

MORGANTON — Lines — Burke-McDowell Membership Corporation, has REA loan of $118,000 for construction of 114 miles of line.

MURPHY—Plant—Coble Dairy Products Co., Lexington, will establish plant in Murphy for condensing skimmed milk.

PISGAH FOREST—Plant—Ecusta Paper Corp., let contract at $83,000 for installation of conveyor system at the plant.

REIDSVILLE—Mill—Altamahow Hosiery Mill, let contract to Reidsville Flour Mill & Lumber Yard for mill; cost $70,000.

WILLIAMSTON—Plant—Dixie Peanut Co., plans $100,000 peanut plant and storage warehouse with a milling capacity of 4,000 bags daily.

WILMINGTON — Addition — Donald L. Sewell, has permission for construction of addition to building to be used by Snow White Laundry.

WILMINGTON—Coaches—Atlantic Coast Line R. R. placed order with Edward G. Budd Manufacturing Co. for 39 stainless steel passenger coaches and for 5 additional passenger engines with General Motors Corp.

WILMINGTON — Plant — Frozen Food Locker Co., W. E. Cherry and W. D. Bass plan erecting 500-locker plant.

WILMINGTON — Plant — L. T. Rogers, constructing $20,000 plant for Frozen Food Locker Company.

WILMINGTON — Building — Engineers of the France Neckwear Co., New York plan construction of building by Industrial Properties, Inc., for the Neckwear Co.'s use; estimated cost $50,000.

WILSON—Bakery—Columbia Baking Co., Atlanta, Ga., planning erection and equipment of building for bakery.

OKLAHOMA

MUSKOGEE—Conversion—The Brockway Glass Co., of Brockway, Pa., purchased old DeKamp Glass Casket Company building, northeast of Muskogee, and will convert into branch factory.

OKLAHOMA CITY—Building—Walter E. Allen interested in erecting business building, plans completed.

OKLAHOMA CITY — Improvements — Fen Ter Refining Co., and Kerr-McGee Oil Co., Wynnewood and Oklahoma City, plan $50,000 repairs to refinery and improvements.

OKLAHOMA CITY — Plant — Allied Materials Corp., C. Wayne Barbour, Pres., will construct plant at Stroud; approximately 20,000 square feet of floor space.

WYNNEWOOD—Line—Fen Ter Refining Co., has plans and survey for 12 miles of 6-in. oil line to East Pauls Valley oil field.

SOUTH CAROLINA

CHARLESTON — Plant — South Carolina Power Co., has acquired 74 acre tract of land on Ashley river for new system power plant, cost $80,000; would increase output capacity from 19,000 to 25,000 kilowatt amperes.

COLUMBIA—Plant—Julius E. Love and N. Levine of Columbia, have acquired Pacific Mills Community Building; plan establishment of plant for manufacture of work clothing.

FLORENCE — Plant — Willis Gregory, owner of proposed freezer locker plant announced that plant will consist of 600 freezer locker units, drawer type, six cubic feet in size.

GEORGETOWN—Plant—W. A. Schwinge will erect and operate veneer producing plant on water front; under name of Georgetown Veneer Co.; production about 160,000 ft. per day; may acquire tracts of hardwood.

MYRTLE BEACH—Plant—George Trask, Jr., has priority for construction of 30-ton ice manufacturing plant.

ORANGEBURG — Plant — Eutaw Frozen Food Locker Co., D. P. Bradbury, will erect frozen food locker plant on South Boulevard.

SANTEE—Paper Mill—Gair-Santee Corp., New York, N. Y., acquired site for erection of blockpaper mill; cost $12,000,000; work will also include model village with water, sewer, lights etc.

SPARTANBURG — Warehouse — Charles Avent, plans construction of cotton storage warehouse.

TENNESSEE

CLEVELAND — Stove Plant — Contract has been let at $190,000 for stove plant for Brown Stove Co.

KNOXVILLE — Laundry — L. B. Jackson & Co., erect $150,000 laundry; excavation work started.

KNOXVILLE — Building — Spier Motor Co., will construct new building; approximate cost $75,000.

KNOXVILLE — Plant — O. B. Andrews Co., Kingston Pike, plans $200,000 paper mill on present site.

LEWISBURG — Stove Plant — Contract has been let for stove plant for Florence Stove Co.; cost $1,500,000.

MEMPHIS — Building — Plans for construction of two story brick and glass office and service building for Carter Manufacturing Co.; cost $60,000 have been announced.

NASHVILLE — Foundry — Contract let for construction of $24,000 steel foundry, to be operated as part of Tennessee Foundry and Machine Co.

TEXAS

AUSTIN — Building — Steck Co., will erect 7-story building, cost $250,000 east of and adjoining its present building; postwar.

BORGER — Piping — Mason Brothers Construction Co., Houston, has contract to fabricate and furnish piping, cost $160,000 for the Phillips Petroleum Co.'s toluene plant be-

(Continued on page 69)

Nickel Project Power Plant Is Second Largest In Cuba

Out of wartime development of a huge new industry has come the second largest power plant in Cuba, exceeded only in size and output by the power plant servicing Havana, the island's capital and largest city.

This new addition to Cuba's industrial growth generates both electric and steam power for the mining and nickel recovery plant of the Nicaro Nickel Co., on Levisa Bay in Oriente Province in northeastern Cuba as well as electric power for the plant site town of Nicaro.

The nickel company, a subsidiary of Freeport Sulphur Co., was organized in 1942 to supply the United States and its allies with a second source of critically-needed nickel for the armament program.

A new application of a controlled reduction and leaching process for recovering nickel from low grade ore is used by Nicaro to obtain nickel for the government's Metals Reserve Company. The mining and recovery plant was built for the Defense Plant Corporation.

The power plant for this project uses six Babcock and Wilcox Stirling type boilers with a rated capacity of 345,000 pounds of steam per hour and with a pressure of 250 pounds to the square inch at a total temperature of 500 degrees Fahrenheit. It has six Worthington-Moore 1,500 kilowatt turbo alternators, generating current at 2,300 volts and 60 cycles.

Two of the turbines are of the non-condensing type and four are of the extraction type. There also is a 4,000 kilowatt General Electric turbo alternate putting out current at 2,300 volts and 60 cycles. The turbine of this unit is of the extraction type. The total output at present is about 160,000 kilowatt hours per day.

The power plant also has a Graver hot process, lime soda system to treat the boiler feed water. The system is divided into two units, each of which has a rated capacity of 30,000 gallons per hour.

At present, the plant is generating 5,200,000 pounds of high pressure steam per day, 4,000,000 pounds of which are converted to low pressure steam for certain uses in the plant.

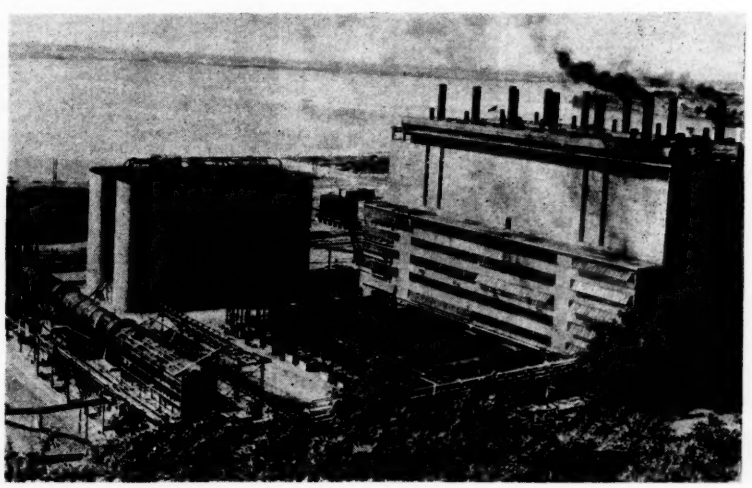
Construction of the power plant and the obtaining of equipment and personnel presented the same formidable obstacles that surrounded development of the entire project at a time of war.

Submarines menaced shipping, there was a shortage of all equipment and materials, and a lack of trained workers. Building materials were so scarce it was necessary to buy up abandoned steel structures at various points throughout the United States and ship them to Cuba. Special equipment was rushed to Nicaro by air.

One break came when the WPB re-allocated to the Nicaro project three giant generators, originally built for the Willow Run bomber plant. A fourth one was found in a woolen mill in Massachusetts, was reconditioned by engineers and rushed to Cuba.

Operation of the power plant was started with Cuban labor working under key supervision from this country. Labor had to be carefully trained under a weeding out process until those capable of displaying sufficient technical ability were found.

But despite all of these obstacles in the creating of a new power plant for a new and complicated metallurgical process, the company's engineers say they now have in efficient operation the second largest power plant in Cuba.



News from Industry

Frank E. Walling

Walling Promoted by Blaw-Knox Company

Frank E. Walling, vice president in charge of operations of the Lewis Foundry & Machine division of the Blaw-Knox Company, has been named acting manager of the division, according to an announcement made by the company. He assumes the duties formerly held by W. C. Snyder, Jr., who resigned as general manager. He is a native of Middletown, N. Y., a graduate of Lehigh University and was for four years associated with the Lukens Steel Co. In 1938 he became superintendent of rolling of the Duquesne Works of the Carnegie-Illinois Steel Corp. He joined the Lewis foundry & machine division of the Blaw-Knox Co., in 1941 as assistant to the manager, and last year was promoted to vice president in charge of operations.

Barnes Becomes Virginian Agent at Norfolk

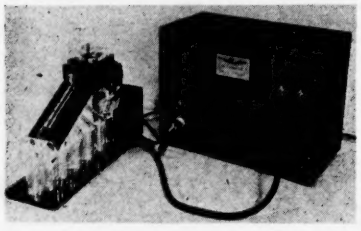
The Virginian Railway Company recently announced the appointment of E. A. Barnes as general agent at Norfolk, Virginia, succeeding W. E. Gallion who was assigned to other duties. P. A. Doran has succeeded to Mr. Barnes' former position as commercial agent.

Automatic Ball Sorter

To provide perfectly sized and perfectly matched balls for better and more accurate bearings, and to sort them faster, the electronics department of Jack & Heintz, Inc., Cleveland, Ohio, manufacturer of aircraft accessories, developed this electronic ball gauge.

When fed commercial balls, which have already been graded to a tolerance of 1/20,000 inch, this automatic machine sorts them into groups five times more accurate. As many as ten size selections can be made—each group being separated by only ten millionths of an inch.

Operation consists only in filling the plexiglass hopper and removing the sorted balls. Jack & Heintz officials state that one operator can handle four machines easily, and that each four machines sort more balls than 32 skilled operators using the conventional measuring equipment—and do it far more accurately.



Automatic Ball Sorter

Economy Range Finder Adds Life to Engine

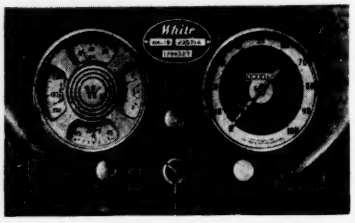
An instrument which combines the features of an ordinary speedometer with those of a tachometer and adds instructions governing various engine speeds is now offered by the White Motor Company under the name, "Economy Range Finder." With this device on the instrument panel the driver can increase the life of the engine by keeping it within its most efficient range of operation.

The experience of the driver and his ability to sense the proper time to shift has proved difficult because grades encountered and the necessity of using various transmission gears to meet different conditions provide a constant change. Expecting a driver to pulse the engine speed without visual aids is like forecasting weather without benefit of scientific instruments.

The White Economy Range Finder helps drivers in shifting gears, saving fuel, conserving trucks, and making schedules. Not only can they read the engine speed directly on the speedometer dial, but instructions are clear. A spiral white line for each transmission gear is offered on the dial, and this is combined with a scale of r.p.m. printed on the speedometer pointer. As the speedometer pointer moves around the dial, the edge of the pointer crosses the spiral white line for each gear, showing the r.p.m. A white area on the pointer indicates the ideal operating range from 1700 to 2400 r.p.m., and at either end is a red area which indicates when the engine is operating outside the proper range.

When the pointer reaches the outer end of the spiral line for any gear, the engine speed (noted in the red) will be 2800 r.p.m., at which the governor is usually set. As this recommended maximum is approached, the bearing loads, piston speeds, and vibrations are increased, thereby tending to shorten the life of the engine. By the same token, the red at the lower end of the pointer shows when the engine is laboring and in need of relief through shift to a lower gear.

White Economy Range Finder



Prefabricated Metal Offered by Lindsay

Lindsay structure, prefabricated method of light metal assembly, is now available with panel sheets in one-half inch and one-quarter inch expanded metal, according to an announcement issued by Lindsay & Lindsay, 222 West Adams Street, Chicago.

All parts are die-formed to individual requirements and can be assembled by workers without special training. Only standard tools are needed—no cutting or fitting is necessary on the job. In case of repair, sheets can be removed from the outside and replaced without disturbing undamaged sections.

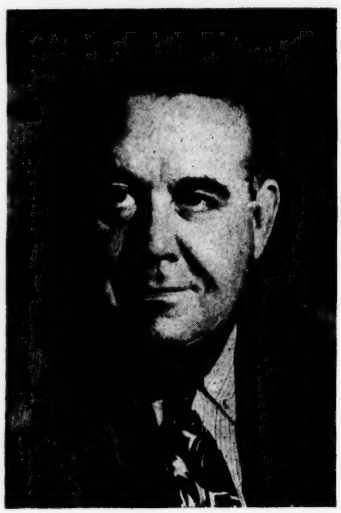
Lindsay structure with steel framing and expanded metal panel sheets provides a simplified method of building neat and attractive guard rails of all types, catwalks, open partitions, window guards, ventilator screens, and similar applications. The Ls expanded metal panel sheets can also be used in place of louvers or cut-outs in various types of Lindsay structure cabinets and enclosures.

Clark Fork Trucks Valuable Naval Officer Reports

For conspicuous usefulness and excellent service on an aircraft carrier in the Pacific, in both American and Asiatic theaters and most recently in the Okinawa campaign, Clark fork trucks were given high praise in a report from the ship to Navy headquarters, according to a high ranking admiral.

"Night and day these little giants are on duty," states the report transmitted by the admiral, "helping to shift stores and equipment in a matter of minutes when it would be hours of back breaking labor for the bluejackets. These trucks have proved almost as valuable as guns."

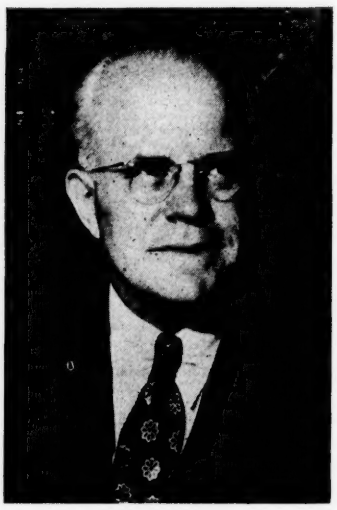
The admiral's message especially commended Clark Tructractor workers for their practical aid to Navy efficiency and effectiveness.



Robert H. Gardner

Byers Names Gardner

Robert H. Gardner has been appointed general manager of sales of A. M. Byers Co., President L. F. Rains has announced. Mr. Gardner has been manager of Byers' Washington office since 1933, except for a four-year period ending in 1940 when he was manager of the company's steel pipe sales, with headquarters in Pittsburgh. He takes over the duties of the late Myron J. Czarniecki, who died June 18. Prior to coming with Byers, Mr. Gardner was assistant sales manager of Caterpillar Tractor Co. At the same time, the appointment of H. R. Rowland as assistant general manager of sales was announced. Mr. Rowland joined the company's sales department in 1915. In 1925 he became manager of the Pittsburgh division, and in 1944 was named manager of hot rolled sales.



H. R. Rowland

Wallace Pratt Retires From Stanoco Board

The retirement of Wallace E. Pratt, director and member of the executive committee of Standard Oil Co. (New Jersey), has been announced by Ralph W. Gallagher, chairman of the board. One of the world's outstanding geologists, Mr. Pratt rose in the practice of his profession to attain one of the most important management positions in the oil industry. He was elected director of Jersey Standard in 1937 and vice president in 1942, a position which he relinquished last fall.

Link-Belt Announces Promotions

Edward J. Burnell, vice-president, Link-Belt Co., Chicago, announces appointment of A. C. Fellinger as sales manager, power transmission machinery, with headquarters at the company's Ewart plant in Indianapolis. This change is made to fill the vacancy caused by the untimely death of C. Walter Spalding. Mr. Fellinger has had a wide experience in the field of power transmission, having joined the Link-Belt organization at Indianapolis in 1916. His last position was manager of sales through distributors, with headquarters in Chicago.

Sale and application of Link-Belt silent chain drives will hereafter be headed up by H. F. R. Weber, divisional sales manager, silent chain drives, with headquarters at the Ewart plant in Indianapolis. Mr. Weber started his Link-Belt career at the company's Philadelphia plant in 1915 as a power transmission engineer, and last held the position of central division manager for power transmission machinery, with headquarters in Chicago.

G. H. Woody continues as sales manager of the ball and roller bearing division, with headquarters at the company's ball and roller bearing plant in Indianapolis.

Sales through Link-Belt distributors will be supervised by F. A. Hurd, divisional sales manager, industrial distributor sales, Chicago; G. H. Unruh, divisional sales manager, industrial distributor sales, Philadelphia; and Harry Reisser, divisional sales manager, automotive equipment sales, Indianapolis.

Rogers Turret Mill Refinements

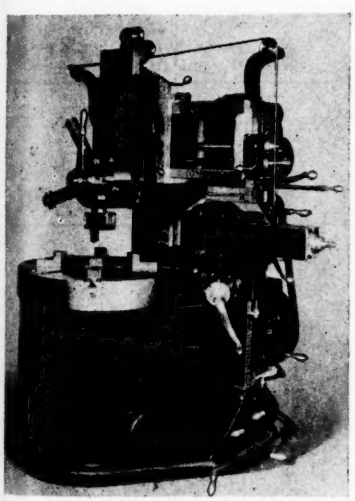
A hundred engineering additions and refinements in the Rogers "Perfect 36" vertical turret mills have been made by the Rogers Machine Works, Inc., of Buffalo, N. Y.

The Rogers Mill is equipped with an adjustable 5-position main vertical turret that provides tool settings for boring, drilling, reaming, turning and thread cutting. Quick acting lever permits rapid indexing of turret head. The main stake has an adjustable swing up to 30 degrees each side of vertical in addition to being adjustable left to right and up and down.

Specially designed swivel side head permits setting at any angle up to 35 degrees each side of horizontal. This side head is also adjustable up and down and left and right as well as being designed for indexing to eight positions.

Foot controls are accessible to the operator for rapid clutch and brake control and changeover of main drive speeds.

Rogers Mills can be equipped with a special coolant system which delivers 2 streams of coolant to the tool and work. The coolant is delivered to the point of operation by a self-contained and self-priming pump. Complete tooling is available with this Mill as well as 4-jaw independent and 3-jaw universal chucks or plain tables.



Rogers Vertical Turret Mill

R. W. Burt

Electropolishing Units Available to Stainless Steel Fabricators

The Rustless Iron and Steel Corporation is making available at once, electropolishing demonstration units using the Rustless patented process.

Purpose of loaning these units at no cost is to assist interested fabricators to evaluate a practical and proven electropolishing process in their own plants. Rustless engineers will direct installation of the models and assist in the initial use of the citric-sulphuric process which in five years has demonstrated its value as a production tool.

The units will be distributed to interested manufacturers of stainless steel articles after samples of the individual items have been treated at the Rustless plant in Baltimore, and it is determined that it is practical to electropolish them.

The demonstration unit is a lead-lined tank of treated wood with inside dimensions 6 by 18 by 12 inches. It has two cathode bars and one anode bar, and the item to be electropolished is attached to the anode bar. Included are a relay for temperature control of the bath, a temperature regulator, an ammeter, and a heater. Components of the solution, which is restricted to the electropolishing of stainless steels, are 15-20 percent sulphuric acid, 55-60 percent citric acid, and 20-30 percent water. About 5.83 gallons of solution are used in the model units.

Rustless, largest exclusive producer of stainless steels in the country, primarily is interested in expanding the usefulness of its products and this is the motive behind distribution of the model units, the company reported. Inquiries about these electropolishing units, and others of larger size to be built later, should be directed to the Market Development Division, Rustless Iron and Steel Corp., Baltimore 13, Md.

Lockett Promotes Hammett

A. M. Lockett & Company, Ltd., has announced the appointment of George R. Hammett as manager of sales of their New Orleans district office. He succeeds R. P. Lockett, who has recently been elected vice-president of the company.

Mr. Hammett, a native of New Orleans, is a graduate of the Engineering School of Tulane University, Class of 1918, and has been connected with A. M. Lockett & Company, Ltd., since his graduation. For the past several years he has been the assistant manager of sales of the New Orleans office. In that capacity he has become well known in marine and oil refinery circles.

Burt Made Manager of Ryerson Tubing Division

Roland W. Burt has been appointed manager of the tubular products division of Joseph T. Ryerson & Son, Inc., steel distributors. Mr. Burt became associated with the company in 1923 and has served for 22 years in various sales capacities. Most recently, he was eastern manager of railroad sales, located in the New York plant. He will now make his headquarters in Chicago, where he will direct the sales of tubular products in all areas served by the Ryerson group of eleven steel service plants.

Natural Gas Powers Hobart Arc Welders

Thirty-five Hobart 300 ampere gas engine-driven arc welders are a part of one hundred machines used at Todd Houston Shipbuilding Corp., Texas, in places where electric power was not readily available.

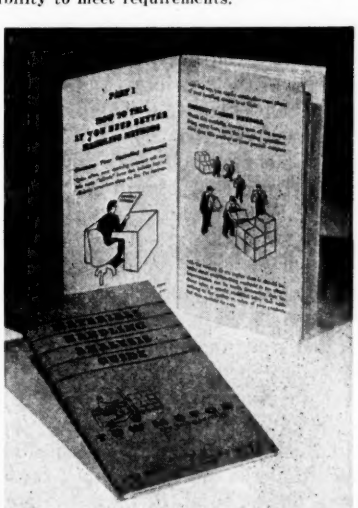
While originally equipped with gasoline carburetors, these Hobart 300 ampere engine-driven arc welders are now running off of natural gas rather than gasoline. Natural gas is inexpensive and a highly satisfactory energy medium, especially in Texas, and whenever engine-driven equipment such as this is to be set in one place for even a short period of time, it is normally practicable to change over the carburetor from gasoline to a natural gas type and hook the engine directly to a natural gas feed.

These thirty-five Hobart welders ran off of natural gas for several months in connection with the in-yard welding training program at Todd Houston shipyards. It precluded the necessity of servicing with gasoline and was a highly satisfactory installation. It is a simple matter to change back to the gasoline carburetor when it becomes necessary to move the welders to portable welding operations where it would not be practical to pipe in the natural gas.

Towmotor Announces "Materials Handling Analysis Guide"

A new "Materials Handling Analysis Guide" has just been published by Towmotor Corp., Cleveland, Ohio, manufacturer of power lift trucks and industrial tractors. It is offered free to anyone interested in locating and analyzing handling problems in factories, terminals and warehouses. It is said to be the first booklet any manufacturer has published on this important but little understood subject.

The 36-page pocket size booklet, which discusses handling from an executive viewpoint, is divided into three major sections: (1) "How To Tell If You Need Better Handling Methods"; (2) "Analyzing The Problem"; and (3) "Determining The Solution To Your Problem." There are 31 illustrations which help to point out ways of improving handling methods. All the well-known types of power handling equipment are illustrated and discussed with the object of determining their ability to meet requirements.



More on page 62

TAXATION OR INFLATION

by
Harley L. Lutz

Professor of Public Finance
Princeton University

IN the financing of governmental costs there is a choice between taxing and borrowing. Although the borrowing may be from individuals, yet when it is done on a large scale the banks are almost certain to be involved, either through the direct purchase of government paper or through the absorption of securities originally sold to individuals. The expansion of bank loans to government is the true source of the condition known as inflation—thus the choice of financing methods is, in essence, one between taxation and inflation.

Taxation is the taking of private wealth for public purposes without the obligation to give the taxpayer an equivalent value in services or otherwise. Inflation is the creation of purchasing power through an expansion of the media of payment.

In other words, inflation involves burdens as does taxation. In the broadest sense it may be called another form of taxation, in that it is a means of taking private income or wealth for public purposes without the obligation to give an equivalent value to the individual.

The plain truth is that the operations of government always involve a burden. This burden is the necessary price of having government and of having it perform certain services. The nature and the extent of these services and the quality of their administration determine their cost. The people must pay this cost, in one way or another. The essence of democratic control of government is that the people are presumed to balance the burden of the cost against the benefits of the services. As the burden rises and the benefits from additional services diminish, a balance is reached at which the activities of government are checked. Such a technique of expenditure control will operate far more effectively under taxation than under inflation as the principal source of public funds. The effect of taxation upon the disposable income of the citizens is clear and easily perceived.

The people must carry the cost of government as a current burden, however the funds may be provided for paying the bills. The employees and the beneficiaries of the state are supported by receiving a share of the goods and services currently produced. They obtain this share by spending the money incomes received from the government, and the government obtains the money to make these payments either through taxation or through some form of credit inflation. The whole course of history and experience demonstrates that it is far better to use taxation than inflation for the purpose of sharing the current product. And in exercising this choice, the people are in the best position to decide how far it may be worth while to go in the endeavor to increase the total output of goods and services. The measure of prosperity and well-being is the effort devoted to production and the

(*Continued on page* 69)

EXPENDITURES, RECEIPTS & GROSS DEBT OF THE FEDERAL GOVERNMENT

SELECTED FISCAL YEARS
MILLIONS OF DOLLARS.

	EXPENDITURES	TAXES	GROSS DEBT
1945	100,405	47,740	258,682
1940	8,998	5,925	42,968
1935	7,010	3,800	28,701
1930	3,440	4,178	16,185
1925	3,063	3,780	20,516

ECONOMICAL
Propane Storage

WE have kept pace with industry's ever-widening use of propane gas by providing storage facilities that are giving dependable service. Experience in designing and fabricating storage and pressure vessels makes us well fitted for the task of serving those considering the use of propane gas.

Other pressure vessels which we design, fabricate and erect, include Hortonspheres and cylindrical pressure tanks for the storage of straight butane and butane-propane mixtures. In addition, we furnish industry with elevated water storage tanks, fermentation tanks, carbon black bins, and vessels used in the storage and processing of chemicals and foods.

If you are considering the use of propane gas, or require storage facilities of any kind, investigate our ability to provide you with these. Write stating your requirements and we'll send details and costs.

The illustration above shows a 30,000-gal. propane storage tank 106 inches in diam. by 67 ft. long.

STANDARD CYLINDRICAL TANKS
for the storage of Propane

Gross Capacity in Gallons of Water	Inside Diameter in Inches	Overall Length in Feet and Inches	Pressure in Pounds Per Square Inch
12,357	94″	35′ 8″	200
15,180	94″	43′ 6″	200
15,750	106″	35′ 11¼″	200
18,000*	94″	51′ 4⅜″	200
19,312	106″	43′ 8¾″	200
20,829	94″	59′ 2½″	200
22,875	106″	51′ 6″	200
23,652	94″	67′ 1″	200
26,437	106″	59′ 3¼″	200
30,000*	106″	67′ 0½″	200

*Most commonly used sizes.

CHICAGO BRIDGE & IRON COMPANY

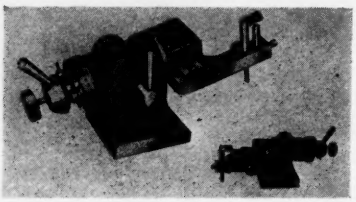
Birmingham 1 .....1530 North Fiftieth Street
Houston 1 .....5614 Clinton Drive
Tulsa 3 .....1611 Hunt Building
New York 6 .....3313—165 Broadway Building
Cleveland 16 .....2216 Guildhall Building
Chicago 4 .....2106 McCormick Building
San Francisco 11...1240-22 Battery St. Building
Philadelphia 3..1619—1700 Walnut St. Building
Los Angeles 14 .....1417 Wm. Fox Building
Washington 4.....703 Atlantic Building

Plants in BIRMINGHAM, CHICAGO and GREENVILLE, PENNSYLVANIA

News from Industry

New Model Radius Dresser

A new angle correcting radius dresser that provides complete wheel dressing service, including the facility for dressing an angle tangent to a radius and identified as Model No. 150, is announced by the U. S. Tool & Manufacturing Co., 6906 Kingsley Avenue, Dearborn, Mich. With this one instrument, the operator can dress (1) a radius (2) an angle (3) a compound-complex angle and (4)



an angle tangent to a radius, in one operation. When these four operations are performed the primary diamond holder position is used but provision has also been made in this U. S. Model for forming extremely small or large radii, in the section of the wheel in the instance where the radius has up to 180 degrees of arc.

Chesapeake Corporation Elects McDonald, President

M. C. McDonald of Monroe, La., has been elected president of the Chesapeake Corporation, West Point, Va. He succeeds Ellis Olsson, who has been president and general manager since 1929. Mr. Olsson now becomes chairman of the corporation. Mr. McDonald has been connected with the Brown Paper Mill of Monroe for 25 years.

Other Chesapeake officers remain unchanged. They are: W. C. Gouldman, v.p.-sec.; J. P. Ekberg, v.p.; O. D. Dennis, treas.; and E. S. Grady, asst. sec.

Ed. P. Phillips Returns to Private Industry

Ed P. Phillips of Richmond, Virginia, terminates his service this week as head of the machinery division of the Office of Surplus Property, Department of Commerce, having completed a year in that capacity. He will return to the full-time direction of his own companies in Richmond, Virginia, Washington, D. C., and Baltimore, Md.

Mr. Phillips was requested to join the staff of the Treasury Department's Office of Surplus Property in July of last year in order to assist in setting up the disposal program for construction equipment and farm machinery. The Office of Surplus Property was transferred to the Department of Commerce in May of this year and placed under the direction of William S. Bradley.

Mr. Phillips is responsible for the development of the nationwide synchronized spot sales program which is producing gross sales monthly of approximately a million dollars.

Crosley Appoints Johnson

Appointment of Sidney E. Johnson of Atlanta, Ga., as southern regional manager in the sales department of the manufacturing division of the Crosley Corp., has been announced by James H. Rasmussen, Crosley general sales manager. Mr. Johnson succeeds Syd D. Camper, who has resigned to become distributor for the Crosley Corporation in Jackson, Miss. As regional manager, he will be responsible for the promotion and sales of Crosley radio and household appliances in nine southern states. His Atlanta headquarters will be at 231 Healey Building.

New Railway Cars

American Car and Foundry Co. announces receipt of the following orders for freight and passenger equipment: Central of Georgia Railway Co., Savannah, Ga., 10 modern streamlined passenger cars; Erie Railroad Co., 700 50-ton 40 feet 6 inch steel sheathed box cars; U. S. Government, War Department (for China-Burma-India), 4,000 30-ton 8-wheel 42-inch gauge box cars, 190 30-ton 8-wheel 42-inch gauge tank cars, 130 30-ton 8-wheel 42-inch gauge refrigerator cars.

American Chain, Cable Announces Sales Changes

W. C. Perkins, who has been associated with American Chain & Cable Co., Inc. for years, has relinquished his duties as district sales manager of the Pittsburgh territory of the American Chain division. Mr. Perkins will continue with the company as a special representative with headquarters at York, Pa.

W. M. Cusack, who has been district sales manager at Detroit, has moved his headquarters from the Detroit office in General Motors building, and is now district sales manager of the American Chain division, Pittsburgh district which covers, Ohio, Michigan, Western Pennsylvania, West Virginia and Eastern Kentucky. His headquarters will be at 908 Empire Building, Pittsburgh 22, Pa.

C. A. Goldstrohm, who recently returned to the company after serving with WPB in Washington, has been appointed district sales manager of the southern district covering Virginia, North Carolina, South Carolina, Georgia, Florida, Tennessee, Alabama, Mississippi, Louisiana, Arkansas, Oklahoma, and Texas. His headquarters will be at York, Pa.

New Ryerson Manager

Wayne Dukette has been appointed manager of the Cincinnati Steel-Service plant of Joseph T. Ryerson & Son, Inc., succeeding D. L. McCubbin who died recently. He has been associated with the Ryerson Company for 31 years. For the past two years he has been manager of the railroad sales department, and formerly was assistant sales manager of the Ryerson Chicago plant, for a period of seven years. His long experience in the steel business in both sales and executive capacities, will prove of great value to manufacturers and builders in the Cincinnati area.

Westinghouse Orders Up Thirteen Per Cent

Orders received by the Westinghouse Electric Corp. in the first half of this year increased 13 per cent over the same period of 1944 and amounted to $505,243,144, it was announced recently by A. W. Robertson, chairman. Unfilled orders as of June 30 amounted to $547,442,497. Mr. Robertson said this compared with $767,125,246 a year ago.

Expands Die-Casting Line

Titan Metal Manufacturing Co., Bellefonte, Pa., one of the pioneers of brass pressure die-castings in this country, is expanding its line of die-castings for the plumbing and heating as well as the appliance and hardware trades, in anticipation of the huge post-war building boom which now seems imminent.

Brass pressure die-castings have been produced by Titan with sections as thin as .030 inch. On the other hand, brass die-castings cannot be produced with the same density as forgings, and for this reason die-castings should not be used when water, gas or air is to be conducted through them under high pressures.

Titan Metal Manufacturing Co. has prepared technical literature indicating what kinds of parts can be die-cast from brass and will forward copies to those interested upon request.

Textile Hall Elects Officers

Directors elected at the annual meeting of the directors of Textile Hall Corp., held in Greenville, S. C., are: Thurmond Chatham, Winston-Salem, N. C.; Donald Comer, Birmingham, Ala.; Herman Cone and J. Spencer Love, Greensboro, N. C.; R. I. Dalton and B. B. Gossett, Charlotte, N. C.; George H. Lanier, West Point, Ga.; H. A. Ligon and W. S. Montgomery, Spartanburg, S. C.; F. O. Tyler, Anniston, Ala.; George M. Wright, Great Falls, S. C., and S. M. Beattie, Sydney Bruce, W. W. Carter, C. E. Hatch, Edwin Howard, Alan B. Sibley J. E. Sirrine, W. G. Sirrine, and Earle R. Stall, all of Greenville. The directors elected Wm. G. Sirrine, president and treasurer, Earle R. Stall, vice president and Bertha M. Green, secretary.

Wagner Appoints McCoin

Wagner Electric Corp., St. Louis, Mo., has appointed B. H. McCoin, Knoxville, Tenn., as sales engineering representative in the trading area of Knoxville for motors and transformers. Mr. McCoin was formerly Superintendent of Power Operations for the Knoxville Power & Water Board.

Kerr Joins B. & O.

Eugene J. Kerr has been appointed manager of technical services of the coal traffic department of the Baltimore and Ohio railroad. He comes to the B. & O. from the Island Creek Coal Sales Co., of Huntington, W. Va. He graduated as mechanical engineer from the Texas Agricultural and Mechanical College in 1922 and for eight years was engaged in an engineering capacity with the Havana Electric Railway Light and Power Co. of Cuba and the sugar industries of Cuba. Mr. Kerr is a member of the American Institute of Mining and Metallurgical Engineers and of the Technical Advisory Board of Bituminous Coal Research, Inc.

Rustless Steel Announces Official Changes

Several changes in the officers of the Rustless Iron and Steel Corp. have been announced by Charles R. Hook, chairman of the board.

Calvin Verity, who has been vice chairman and treasurer and a member of the board of directors, has been elected president, succeeding Mr. Hook who was both chairman and president. W. W. Sebald, a member of the board, was elected first vice president which is a new office in the company.

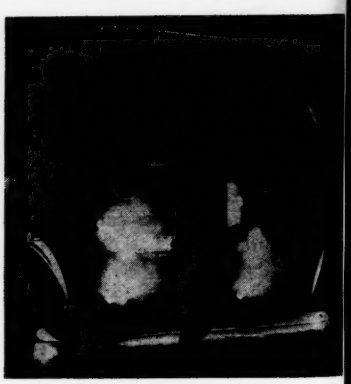
G. D. Moomaw, who has been vice president in charge of operations and also a director, was elected vice president and general manager. He succeeds C. L. Kingsbury who has resigned. Mr. Kingsbury was controller of the American Rolling Mill Co. before coming to Rustless on loan, and he is returning to Armco on special assignment.

George W. Clearwater, who has been assistant treasurer of Rustless, was elected treasurer.

Dale Joins Bowser

W. Marshall Dale has been appointed executive vice president of Bowser, Inc., liquid control specialists, it has been announced by R. Hosken Damon, president of the company. Mr. Dale resigned as president of the Indiana Service Corporation in Fort Wayne, Indiana, to assume his new position. Prior to joining that corporation in 1935 he was vice president and treasurer of the public service company in Indianapolis.

New Extinguishing System to Control Bus Engine Fires

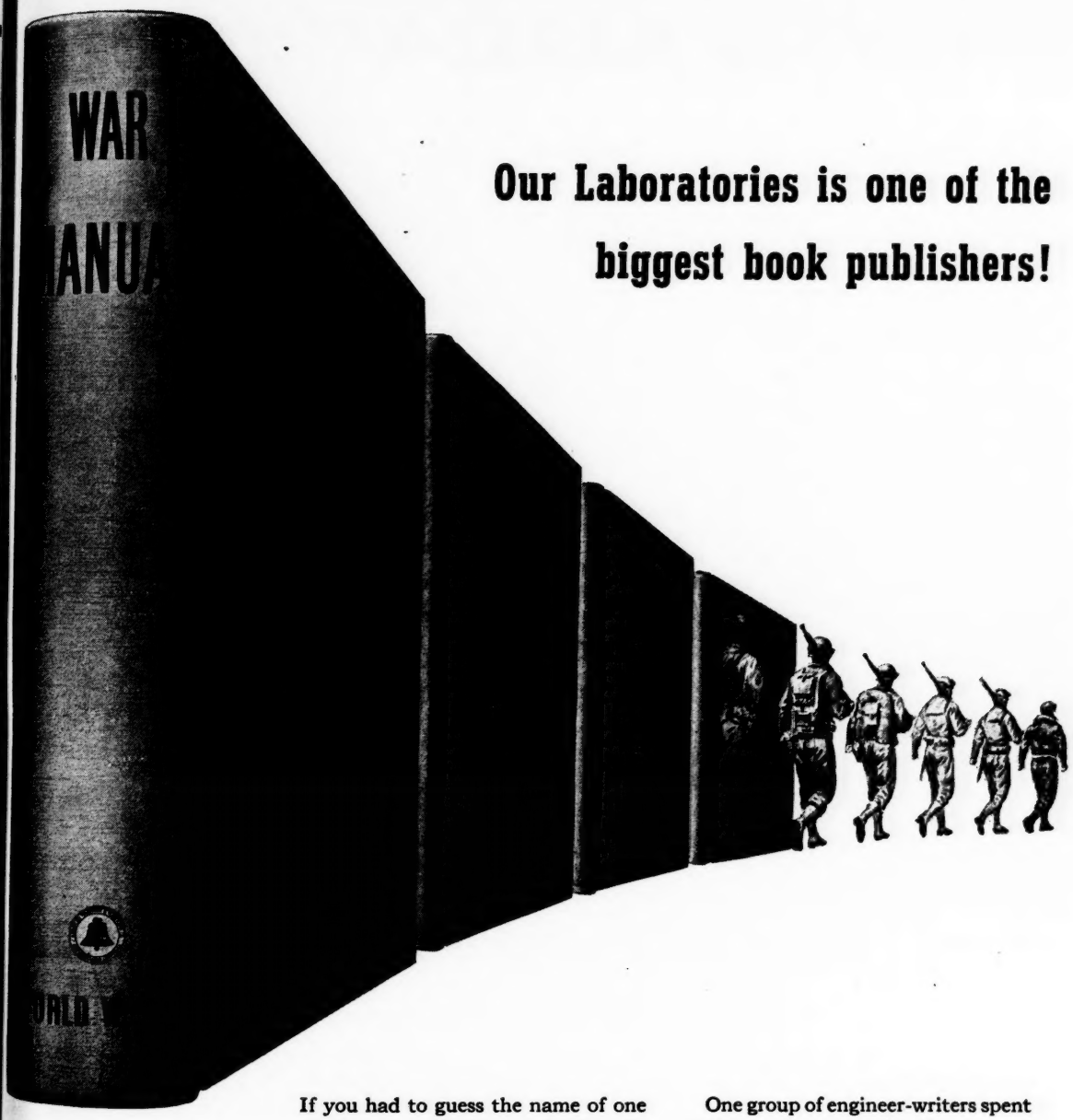


The new Kidde built-in fire-extinguishing system for engine compartments is now in process of installation in a large fleet of intercity buses, and contracts for additional fleet installations have been signed, state Walter Kidde & Co., Inc., 140 Cedar Street, New York 6, N. Y.

Fire detection occupies first place in the system. Specially designed flame detectors are spotted at danger points around the engine, and an outbreak of fire near any one of them instantly flashes a warning red light at the dashboard.

The operator's quick pull on a fire handle either near his seat or on exterior of bus as shown here, releases a flood of compressed carbon dioxide gas, which chokes out the fire.

(*Continued on page* 64)



Our Laboratories is one of the biggest book publishers!

If you had to guess the name of one of the country's biggest book publishers, the chances are you wouldn't think of Bell Telephone Laboratories.

Yet, in the number of books prepared for publication during the past year, the Laboratories outranks the largest book publisher in the country.

Many of these—prepared for the Army and Navy—are twice the size of the average novel. Some contain 1000 pages. All contain numerous photographs and technical drawings in addition to the text.

One group of engineer-writers spent eight months on one book, a manual for a secret electronic device. Another volume, equally thick, was written by one man in five months. Still another required the full time of one writer for a year and a half.

This publishing achievement is one of the yardsticks by which the Laboratories' war contribution may be measured. That's because each book is an instruction manual to accompany equipment designed by Bell Laboratories for the Armed Forces.

BELL TELEPHONE SYSTEM

News from Industry

Engine Fire Extinguishers

(*Continued from page 64*)

The gas is odorless and nontoxic, and causes no damage whatever to the engine.

Speed of the system's operation was demonstrated recently in special tests for the benefit of insurance officials, when gasoline fires which had been permitted to burn for 5 to 20 seconds, thoroughly heating surrounding metal parts, were detected in less than 1 second and extinguished in approximately 1.2 seconds, in spite of an artificially created wind velocity of 25 m.p.h.

Refrigerator Manufacturers Ready to Aid Repairs

Besides the demand for new mechanical refrigeration and air conditioning equipment after the war, Americans will spend large sums for repair, modernization and expansion of existing equipment. More than $70,000,000 in new parts will be required, and to that sum will be added millions in labor and engineering services, most of which will be supplied by the nation's refrigeration and air conditioning service firms.

These facts were disclosed by F. J. Hood, newly-elected president of the Refrigeration Equipment Manufacturers Association, who based his $70,000,000 estimate on a recent report to the organization by H. T. McDermott, secretary of the Refrigeration Service Engineers Society. All of the 76 members of the Refrigeration Equipment Manufacturers Association produce parts and refrigerants and more than one-third of them also manufacture complete refrigerating or air conditioning units and systems or both.

Texas Oil Producers Allowed August Increase

Deputy Petroleum Administrator Ralph K. Davies recently announced that a production rate of 2,356,000 barrels daily of all petroleum liquids is certified to Texas for August 1945. This rate represents an increase of 13,000 barrels a day over the amended certification made for July 1945. Of this increase, 10,000 barrels daily are expected to come from crude oil fields, with the remaining 3,000 barrels daily expected from new natural gasoline plants going on stream. All of the increase in the crude oil rate has been certified for production from fields in the West Texas area.

Locomotive Motion Picture

A new 16 mm. motion picture in color, which tells the story of modern coal burning locomotives as they are built in the Norfolk and Western shops at Roanoke, Va., and operated over the railway system, has been produced by the railroad. Its title is "The Modern Coal Burning Locomotive."

The twenty-five minute film, which opens with a map showing the extent of the Norfolk and Western system, shows various steps in the construction of the locomotives, from scrap steel being melted in the foundry of Roanoke shops, through to completed engines ready for operation. The locomotives that are filmed are the N. & W.'s powerful, speedy streamline passenger engine, Class J; the versatile, combination freight and passenger engine, the fast Class A; and the heavy duty freight, Class Y6.

The camera follows the new engines, pulling passenger and troop trains and fast merchandise freights and coal trains, as they speed from Roanoke through southwest Virginia, West Virginia and Ohio to Cincinnati. The engines retrace their route back to Roanoke after a round trip of 848 miles without the necessity of repairs or scervicing, except for minor lubrication in Cincinnati.

"The Modern Coal Burning Steam Locomotive" will be shown to civic clubs, schools, colleges, engineering and mechanical groups and similar organizations. The motion picture was produced under the supervision of the motive power department of the Norfolk and Western. It was shot by Bryan Beard and Frank Rader, members of the railway's photographic laboratory. The narrator is Del Sharbutt.

Sales Office Opened

A Creped Wadding Sales office has been opened by Kimberly-Clark Company in Atlanta at 22 Marietta Street N. W. R. V. Bellmore is in charge of the office which will cover the firm's District 3 and will handle Kimsul, Kimspak and Sanek sales only.

John M. Guild Named to East Texas C of C Staff

John M. Guild has been named head of the newly established Industrial Research and Development Department of East Texas Chamber of Commerce, according to an announcement by Hubert M. Harrison, vice president and general manager with headquarters in Longview, Texas.

Mr. Guild will operate from the regional chamber's Dallas office at 324 Irwin-Keasler Building, Dallas, Texas.

He comes to the East Texas Chamber with a background of broad experience in community industrial development while general secretary of chambers of commerce in Kansas City, Mo., Dayton, Ohio, and Omaha, Neb. During this period he specialized in industrial research and development and gave the advanced course for many years at the National Institute for Commercial and Trade Executives at Northwestern University, Evanston, Ill.

He is a past president of the National Association of Commercial Organization Secretaries.

Dewees Made District Aide

H. K. Dewees has been appointed district representatives of Warren Telechron Company's Atlanta, Ga., office, in charge of sales in Southeast territory, it is announced by Roy W. Johnson, vice President.

With a background of 25 years in electrical appliance fields, Mr. Dewees will have headquarters at 141 Marietta St., N. W. to facilitate distribution of the firm's electric alarm clocks and to act as advisor to industrial concerns using Telechron synchronous motors.

Lubbock Gets Air Service

Lubbock, Texas, entertained civic and aviation officials from Dallas, Fort Worth, Houston, San Antonio, Amarillo, and Denver in celebration of the inauguration of the first air service into that city recently. Braniff Airways began service to Lubbock with a third daily round trip between Texas and Colorado points, making Lubbock an intermediate stop between Fort Worth and Amarillo.

Inauguration program of activities included a banquet and ceremonies at the South Plains Army Air Field, the former Lubbock Municipal Airport.

New Briggs Engineering Chief

Briggs Clarifier Company, Washington, D. C. and Bethesda, Md., have announced the appointment of E. Digges La Touche to administer the Field Service Engineering staff of the Aviation Division. He will also develop foreign markets for Briggs Aircraft Ground Clarifiers.

Previous to appointment by Briggs, Mr. Digges La Touche was executive assistant to the director general of the British Air Commission.

Pittsburgh Plate Glass Promotes Henshaw

Appointment of J. H. Henshaw as general export manager of the Pittsburgh Plate Glass Company, has been announced by Harry B. Higgins, president of the firm.

Having started with the company in 1931, Mr. Henshaw went to the Newark branch in 1932; became paint manager at Birmingham in 1938; and a year later became assistant manager of the Boston unit where he served until his new appointment.

His staff includes: C. H. Tilp, Pittsburgh office, in charge of glass export; W. J. Werner, Newark, in charge of paint export; and J. Rivera, Baltimore, in charge of brushes.

Blue Dye Boosts Lights

Boosting the light output of photoflash lamps used with daylight color film, by as much as 40 per cent, with a new blue dye coating for bulbs is announced by Westinghouse Lamp Division, according to Ralph R. Brady, manager of the commercial engineering department. Film of all makes is more effective when the dye is used to coat bulbs for daylight exposure, according to the announcement, for the reason that the light emitted through the coating more nearly simulates average daylight conditions.

Heavy Die Handling

The operator of the intra-plant truck drives up to the die-press and by a mechanical device elevates the platform of the truck to the level of the die bed. He then reels off wire cable on both sides of the truck, passes each length through a pulley on the end of the platform and hooks it to the rear side of the die. The huge 20-ton die slides smoothly from its bed to the platform as the cable is wound back onto its drum. Such is the operation accomplished by a modern die-handling truck developed by Elwell-Parker Electric Co., Cleveland, Ohio. Only one man, the driver if desirable, is necessary to change dies.

Little Giant Batteries

Noteworthy developments in the manufacture of storage batteries have grown out of wartime production. Many new types, ranging from huge tank batteries down to tiny contrivances weighing only a few ounces are being produced for the armed forces. One of these is described as being so small it can be held in the palm of a hand, yet is capable of delivering enough current to light an auto fog lamp for longer than an hour. Another is a 36-volt tiny affair, used in balloon-type weather forecasters which broadcast weather conditions from stratospheric heights. Bombing operations over enemy territory are often guided by these forecasts. These tiny batteries are vacuum packed, like coffee, and retain their charges indefinitely, until used.

Materials-Handling Booklet Issued by Trucktractor

Materials handling in wartime through the use of pallets and fork trucks is shown in a 24-page pictorial booklet published by Clark Trucktractor, Battle Creek, Mich. Copies are mailed to those requesting them.

Human blood, blankets, medicines, castings, machinery parts, oil and grease drums, potatoes, canned foods, fresh vegetables, all are pictured aboard the pallets whisked in and out of warehouses, freight cars, trucks, ships and cargo planes. The booklet shows the many reasons why industry will not return to prewar methods of slow and costly handling of materials.

Mechanical Coal Stokers

Mechanical coal stokers have increased in sales-volume at factories for the first four months of 1945 as compared with the same period a year ago. A compilation of the figures of 64 manufacturers shows sales for the first four months of 1945 totaled 23,281 stokers of all sizes and types; whereas for the same period of 1944 there were 7,710 units sold, and for the same period of 1943 sales totaled 19,711 units.

A gradual increase in production of residential size stokers for the rest of the year is promised by the Stoker Manufacturers Association.

Food Processing Machinery Given "Green" Light

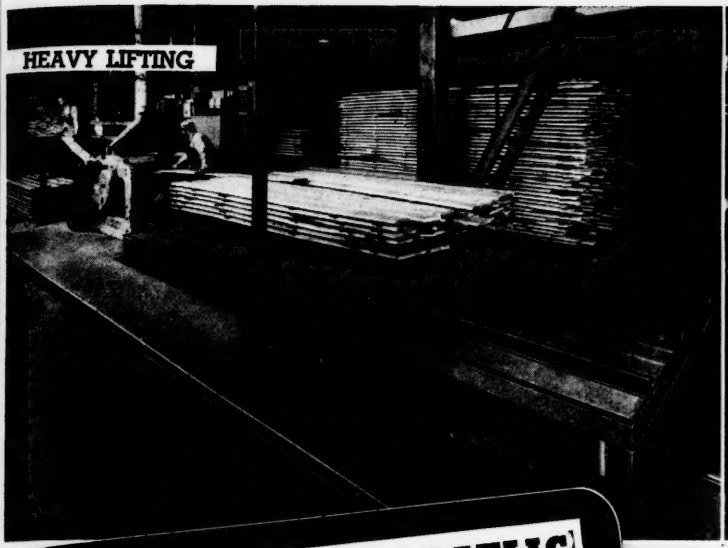
Food processing machinery and equipment, of paramount importance to Southern industry, was given an AA-2X priority rating in June by the War Production Board. The manufacturers of this type of machinery are thus given preference over virtually all others not actually engaged in producing the instruments of war. These industries were assigned, also, a production urgency rating of 5 and 6 for manpower.

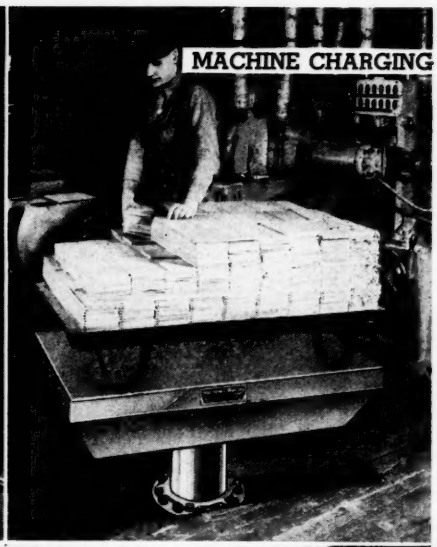
Snap-Assembly Construction Announced by Lindsay

A new fabricated light metal construction, known as Lindsay Struc-Lok, based on a patented method of snap-assembly which requires no bolts, screws, rivets, or welds, has been announced by Lindsay & Lindsay, Chicago. Struc-Lok has been developed by the company to complement its other product, Lindsay Structure, and to extend the advantages of prefabricated metal assembly to a much broader field. This new light weight construction meets the need for applications where lighter weights are requisite and strength requirements are correspondingly lower.

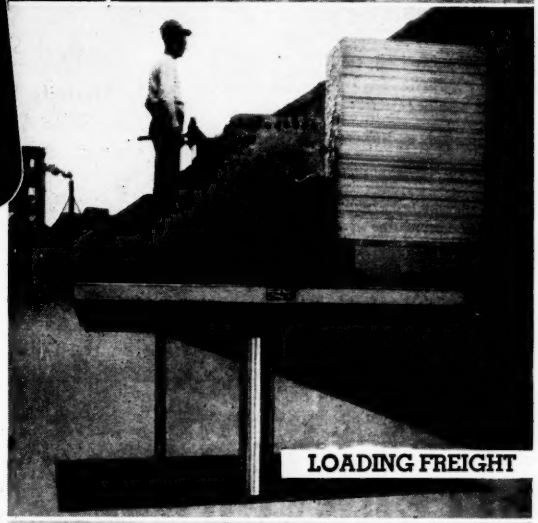
Lindsay Struc-Lok, which is fabricated in both aluminum and steel, consists of only three basic parts: Framing, sheets, and fittings, yet its applications are almost unlimited. All parts are die-formed by mass production methods in a wide variety of sizes. Assembly can be handled by men or women

(*Continued on page 66*)





4 WAYS OILDRAULIC LIFTS CAN HELP YOU SAVE MANPOWER SPEED PRODUCTION



Heavy Lifting—An Oildraulic Levelator is the quick, economical way to handle loads up to 50,000 lbs. Takes loads without rehandling and raises to machine levels at push of a button. Custom built to fit any lifting operation.

Machine Charging with an Oildraulic Levelator keeps the top of the stack always exactly where the operator wants it. Result: greater output and less operator fatigue. Also, larger unit loads can be brought to machines for processing.

Loading Freight—Oildraulic Levelators load materials directly from plant floors into freight cars or trucks. This makes quicker handling . . . one man loading . . . smoother traffic flow. No ramps or loading docks required.

Elevating Freight—Oildraulic Elevators are designed for dependable operation at lowest cost. No penthouse or heavy load-bearing structure required. Smooth, accurate landing stops. Car sizes as needed.

How Oildraulic Lifts Operate

The operation of an Oildraulic Levelator or Elevator is quite simple. At the press of a button the car is raised by oil electrically pumped into the jack or jacks. UP speed can be as fast as desired. Lowering is rapid so no time is lost in reloading. Oildraulics require practically no maintenance . . . give uninterrupted service . . . and are easily installed. They are backed by Rotary Lift Company's experience in building over 40,000 lifting devices.

Do You Want More Information?

Drop us a line and we'll send you complete information on this modern material handling equipment. Advise us your lifting problem and we'll gladly offer our recommendation.

ROTARY LIFT CO., 1063 KANSAS, MEMPHIS (2), TENN.

Rotary

OILDRAULIC LEVELATORS · ELEVATORS

News from Industry

(*Continued from page* 64)

without special training. The basic principle of Lindsay Struc-Lox assembly is as follows: Special fittings connect the framing and hold it together while the flanged edges of the sheets are snapped into die-rolled frame channels. As the edges of the sheets snap into place they lock the framing and sheets permanently into position, providing an unusually strong light-weight unit with no space sacrificed for reinforcing braces.

Lindsay Struc-Lok is now available with sheets in 26 and 24 gauge steel and .020" to .030" thickness of 61 ST alloy aluminum. Perforated or expanded metal sheets may also be used. Openings, louvers, doors, and other conventional construction details are easily incorporated, and provision is made for using the framing to support shelving, hooks, machines or other equipment.

Corner caps and decorative molding, which also snaps easily and permanently into place, give the completed Struc-Lox unit an attractive, machine-finished appearance.

Lindsay Struck-Lox provides manufacturers with a simplified method of making an almost unlimited variety of light metal assemblies and lends itself particularly well to line production. A few of the uses for Struc-Lok include: light machinery housings, cabinets for electrical and electronic equipment, refrigerators, walk-in coolers, sharp freeze units, furnace casings, kitchen cabinets, air conditioning units, shipping containers, storage bins, shelving, and radiator covers. It is also suitable for interior lining and exterior sheathing and roofing.

Carl Backer Opens Office

Carl A. Backer, for the past four years factory manager for the Cameron Iron Works, has opened offices at 617 Chronicle Building, Houston, Texas, as a manufacturer's representative, handling gear production equipment for Michigan Tool Co., broaching equipment for Colonial Broach Co., thread production tools and equipment for Detroit Tap & Tool Co., drill jig bushings for Colonial Bushings, Inc., carbide tools for Tungsten Carbide Tool Co.—all of Detroit—and cutting tools for Genesee Tool Company of Fenton, Michigan.

Martin Announces Corrosion Research Project

Establishment of The Glenn L. Martin Company corrosion research project at the North Carolina corrosion farm places this organization among the top industries doing research in this field. Work on setting-up exposure racks to be used for the studies is well underway, with actual research scheduled to start in the near future.

New Hot Marking Machine Marks Plastic Handles

A special machine has been developed by the Acromark Company, Elizabeth, N. J., for the purpose of printing directions for control and operation on plastic handles used in operating a lethal war weapon. This machine is designated as the Acromark 9AHS Marking Machine.

This new special machine, entirely motor driven and including the air ejector, is widely adaptable to the marking of cylindrical and tubular parts that require a particularly prominent or attractive marking. Full information will be gladly submitted upon application to the manufacturer, The Acromark Company, Elizabeth, N. J.

British Telephone Service Now Available to Public

Radio-telephone service between the United States and Great Britain became available for general public beginning June 23 according to an announcement of the American Telephone and Telegraph Co. During the European war only official and press calls have been permitted over the facilities between the two countries. In addition to this relaxation of wartime restrictions, the rates for calls between this country and Great Britain will be reduced on the same date. The charges for a three minute call between New York and London, for example, will be $12 instead of $21.

-:- TRADE -:- LITERATURE

BOOKLET ON ELECTRONICS

To provide an understanding of the principles of electronics and an idea of the part electronics will play in future industrial developments, a 20-page book entitled, "Introduction to Electronics," has been produced by the Allis-Chalmers Manufacturing Co., Milwaukee 1, Wisc. The new educational bulletin was prepared by Dr. Walther Richter, recognized as one of the outstanding engineers in this promising electrical field.

A brief discussion on the fundamentals of conversion and control of electric power in a load prefaces introduction of the subject of electron tubes. Approaching this subject as a guide for application engineers, instead of tube designers, the book (E6358) explains that the electron tube is a new control element which is nothing but a special type of rheostat or switch. The discussion of tubes is divided into two main parts: vacuum and gaseous.

Differences between a vacuum tube and the equivalent mechanical device, methods of specifying tube performance, application of tube characteristics for design purposes, and use of the high speed response of the tube are explained. Clearly presented are principles of tube detector action with applications, and principles of tube oscillators with application to induction and dielectric heating. Line drawings, curves, and sketches add materially to comprehension.

TRAINING FOR SUPERVISION

"Training for Supervision in Industry," by George H. Fern, is an understandable treatment for those concerned with the problems of training men for supervisory positions in industry. It contains much that also will help the supervisor with his own program of up-grading and self-improvement, or with his training program. The book explains the conference method and recommends it for accomplishing training, and deals specifically with such supervisory problems as maintaining mental health in industry, handling problems of women workers, disciplinary problems, etc. $2.00 McGraw Hill Book Co., Inc., N. Y.

HOW RAILROADERS WERE TRAINED

The story of how soldier-railroaders were trained is told with words and pictures in a booklet produced by the Southern Railway system and now being distributed to officers and employes of the railway's New Orleans and Northwestern Division who participated in the training of four military railway operating battalions and the personnel of a replacement school.

Appropriately entitled "Well Done," the 8 x 12 booklet contains 32 pages and 75 pictures. The pictures are grouped to show the various steps in the training program, beginning with the initial staff meetings when the program was planned and ending with a picture of a helmeted soldier-railroader "pulling the throttle" on his "graduation" run. Other pictures show railroaders and soldiers working side-by-side in shops, yards, offices and on trains and tracks. The center-page spread is a pictorial map of the 200-mile long "school."

SNOW MELTING BULLETIN

Snow-melting by means of underground hot water or steam wrought iron pipe lines is the subject of Case Study No. 4, released recently by A. M. Byers Co., Pittsburgh. The bulletin consolidates available information on such installations, the oldest of which goes back to 1925. Specific information is given on five installations: (1) beneath the sidewalks of an office building; (2) in a residence driveway; (3) beneath crosswalks in an industrial plant; (4) in a truck driveway; and (5) in a truck ramp at a factory. Design and installation practices constitute a main chapter in the case study.

WAGNER ELECTRIC ISSUES FOLDER

Wagner Electric Corp., 6400 Plymouth Avenue, St. Louis 14, Mo., has recently issued a 16-page folder (form GU-86) describing briefly its entire line of electrical and automotive products: motors, transformers, industrial brakes and controls, hydraulic brakes, air brakes, tachographs (speed recording speedometers), NoRoL, brake lining and brake-service tools. Also included are addresses of Wagner's 29 sales and service offices.

ARMCO ISSUES BULLETIN

Special advantages of "Armco Magnetic Ingot Iron" which make it suitable for d-c applications are presented in a new 24-page booklet recently published by the American Rolling Mill Co., Middletown, Ohio.

The booklet describes ARMCO magnetic ingot iron as a dense, highly refined open-hearth iron with high conducting power, and ideal for many electrical and magnetic applications, ranging from magnetic cores for cyclotrons to telephone and telegraph wires for communication systems.

"How to Fabricate Magnetic Ingot Iron" is the title of one section, containing data on the effect of strains on magnetic properties; hot and cold-working; machining operations with the aid of standard tools; and accepted methods of welding, including tables on the best electrodes to use.

A copy of the booklet may be obtained by writing the mills.

DILLON DYNAMOMETER MANUAL

The Dillon Dynamometer Manual, just published by W. C. Dillon & Company, Inc., is said to be the first complete presentation in manual form of the story of the traction type dynamometer and the constantly increasing number of uses which are being found for it in simplifying testing and weighing procedures in practically every industry.

Because of the wide-spread interest in this testing instrument, copies of this booklet have been made available, and will be sent on request to W. C. Dillon & Company, Inc., 5410 West Harrison St., Chicago 44, Illinois.

CARBORUNDUM ISSUES BOOK ON SANDING AND FINISHING

To acquaint coated abrasive users with the newly announced system for identifying coated abrasives by Carborundum, The Carborundum Co., Niagara Falls, N. Y., has prepared "Standing and Finishing," an 84-page book containing information about coated abrasives, including an explanation of the new system and new end use names for coated abrasive products. Also there are comprehensive recommendations for the use of coated abrasive products in metalworking, woodworking, shoe and leather, floorsanding, printing, plastics, pipe and hat trades, specifications for belt sanding, belt splices and speeds.

NEW BOOKLET OUTLINES RESULTS OF ILG PERSONNEL PRACTICES

Because its various pioneering personnel practices have attracted many inquiries from business executives, the Ilg Electric Ventilating Co., of Chicago, has compiled a booklet to answer such requests for information which outlines the historical development and results of its employee policies.

Entitled "ILG Welfare Club—Policies and Personnel Practices of the Ilg Electric Ventilating Co." Complete details of practices pioneered by Ilg are detailed in the new booklet. Copies may be secured direct from the home office at 2850 North Crawford Avenue in Chicago or from any of the Ilg Branch Offices located in principal cities.

BOOKLET SHOWS DEMING PROGRESS

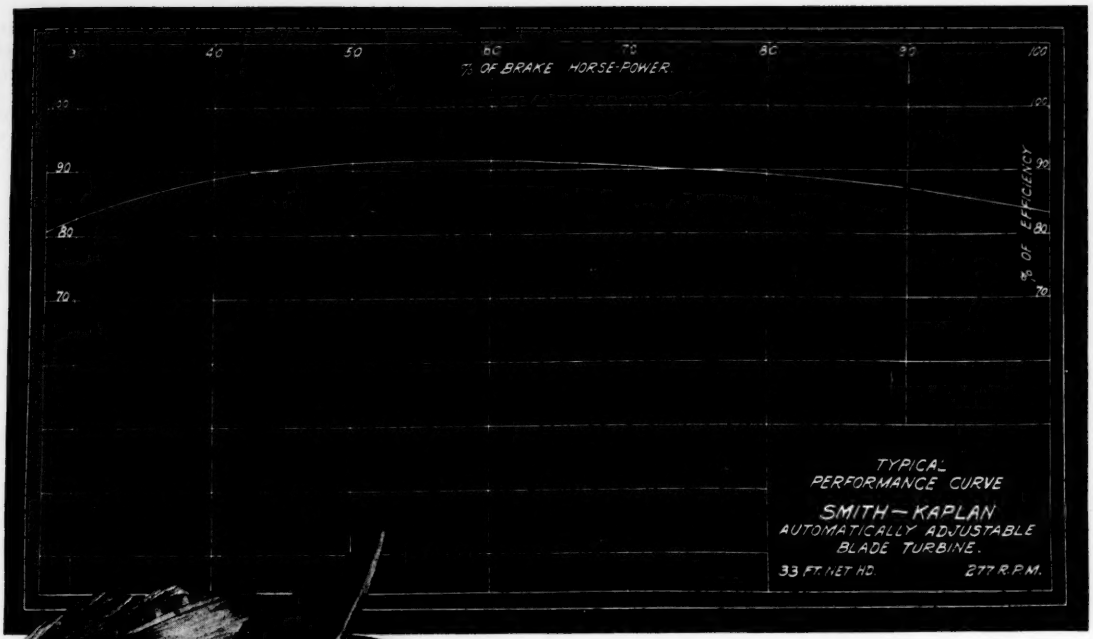
A booklet published recently by The Deming Co., pump manufacturers, Salem, Ohio, tells the history of the Deming Company since it was founded in 1880. Illustrated with photographs showing the early factory and the greatly enlarged factories of today, the booklet gives the reader a friendly acquaintanceship with pioneer pump manufacturers who have made steady progress for 6[illegible] years.

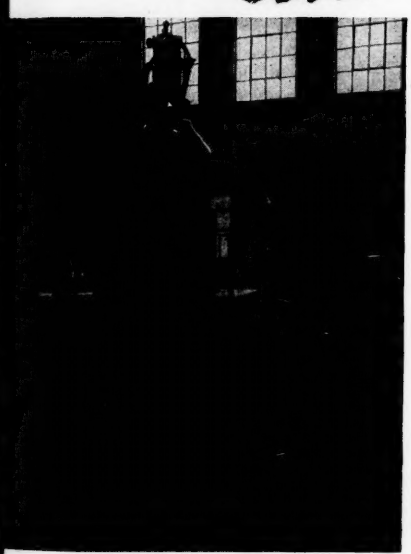
WORTHINGTON "BLUE BRUTE" CATALOGS

Two illustrated catalogs have just been issued by Worthington Pump and Machinery Corp., Holyoke, Mass., featuring the 1[illegible] line of diesel engine, and the Worthington "Blue Brute" accessories for rockdrills and air tools.

BALDWIN-HILL ISSUES CATALOG

Baldwin-Hill Co. has issued a new 28-page industrial catalog—describing in detail the various high and low temperature mineral wool insulations made by this firm. The book is fully illustrated and complete with application specifications, conductivity curves and engineering data. Copies on request to the manufacturer at: 554 Klagg Avenue, Trenton 2, N. J.





The SMITH-KAPLAN TURBINE

IF your water power problem involves wide variations in flow and head, the characteristics of the Smith-Kaplan automatic adjustable blade turbine will be of interest to you. Its higher power per unit of diameter and its higher specific speed permits the use of smaller framed generators and decreased power house dimensions.

When the turbine gates are adjusted to changing load demands, the blade pitch is automatically adjusted, thereby keeping the gate opening and blade angle in proper relationship to produce maximum turbine efficiency at all times!

Write for full details and bulletin.

If It's Hydraulics—

Put It Up to Us!

S. MORGAN SMITH COMPANY
YORK · PENNSYLVANIA · U · S · A

POWER by SMITH

THIS IS NO TIME TO FIDDLE

History tells us that Nero, with apparent unconcern, sat idly by and fiddled while Rome burned. Are we growing to be a nation of Neros? American property is being destroyed by fire to the tune of over $425,000,000 annually, yet unless it touches his own belongings, the average American citizen isn't particularly interested. He blindly ignores the fact that increased losses mean increased costs and frequently the destruction of property that can not be replaced. An awakened public can do much to prevent this great economic waste—this is no time to fiddle. United States Fire agents from coast to coast are constantly presenting these facts to the public for the sole purpose of saving lives and property.

UNITED STATES FIRE
INSURANCE COMPANY
ORGANIZED 1824
NEW YORK, N. Y.

LISTEN THURSDAY EVENINGS TO EARL GODWIN OVER AMERICAN BROADCASTING NETWORK

SOUTHERN DEPARTMENT • HINES BROTHERS, *Managers* SPRING ST., ATLANTA, GEORGIA

Mathieson Makes Addition

The completion of a $400,000 addition to Mathieson's Saltville carbon dioxide plant, will provide a substantial increase in the amount of dry ice and carbonic gas available to users throughout the South and southwest, it is announced by George W. Dolan, president of the Mathieson Alkali works.

The new addition, which increases Mathieson's production of solid and liquid carbon dioxide by more than 50 per cent, consists of two units. Like the original carbon dioxide production facilities, the new units are so designed that each can be operated independently. Continuous production is thus assured. Provision for distributing the increased output to warehouses in 15 cities has been made by the addition of 30 new dry ice cars to the Mathieson fleet.

This expansion authorized by the WPB, was made necessary by the increasing use of carbon dioxide in its various forms for refrigeration and industrial applications and by the growing number of users that have located in the South and Southwest, according to Mr. Dolan.

T. C. I. to Handle Southeast Sales for U. S. Steel Subsidiaries

Tennessee Coal, Iron & Railroad Co., American Steel & Wire Co. and Carnegie-Illinois Steel Corp., has jointly announced that sale of products of these three United States Steel subsidiary companies will be handled by Tennessee Coal, Iron & Railroad Company in the eight Southeast states of North and South Carolina, Tennessee, Alabama, Georgia, Florida, Mississippi and Louisiana and the three Southwest states of Arkansas, Texas and Oklahoma.

Mobile Generating Units Produce Oxygen

Gas—but of a life-sustaining rather than a life-destroying type—is now being produced by the Army and Navy at advance bases. The gas is oxygen, large quantities of which must be provided for crews of planes flying at high altitudes. It is also required for medical purposes, and for welding and metal cutting operations.

Production of oxygen "on the spot," by mobile generating units, is resulting in important savings in transportation time and space. Prior to the development of these units the oxygen had to be shipped in heavy metal cylinders from the point of manufacture to the point of use. Empty cylinders had to be returned for refilling.

A factor in the successful performance of the units is the use of glass textile fibers, in bulk form, as insulation. Convection currents, which tend to work against proper operation of the units, are also decreased by the glass fiber insulation. Other insulation properties which are essential in this application are fire-safety and light weight.

The mobile oxygen generating units are manufactured by Air Products, Inc., Chattanooga, Tenn. Insulation is supplied by Owens-Corning Fiberglas Corporation, Toledo, Ohio.

Taxation or Inflation

(Continued from page 60)

output resulting from effort. Such government as may be necessary should be paid for in a manner least detrimental to productive effort. Taxation rather than inflation is the safe and sound way to pay the bill.

Industrial Expansions

(Continued from page 57)

ing erected by Bechtel-McCone, Inc., of Los Angeles, Calif., at cost of $6,000,000.

BOYD — Locker Plant — C. T. Dodson, Decatur, plans construction of one story locker plant; cost approximately $12,000.

CHANNELVIEW — Plant — G. C. Spates, plans construction of quick freeze plant, cost $50,000.

DALLAS—Building—The Dallas News, G. B. Dealey, chairman, purchased plot of ground on Young St., extending from Jefferson to Houston Sts., as future site; new plant to be erected; construction to begin as soon as conditions permit; land, buildings and modern equipment to involve expenditure exceeding $2,000,000.

DALLAS — Factory and Office — Elliott Sheilds Planing Mill, will construct one story factory and office building; cost $10,000.

DALLAS — Laundry Addition — Peerless Laundry Co., plans construction of addition to laundry building.

DALLAS — Remodeling — Arch Munn, contract is let for remodeling plant; cost $10,000; R. B. George Investment Co., owners.

GOOSE CREEK — Plant — Hemphill Pontiac Co., plans construction of $100,000 building.

HOUSTON — Office and Factory Building —Tube-Kote, Inc., plans construction of one story office and factory building.

HOUSTON — Building — Straus-Frank Co., will erect $400,000 building, preparing plans.

HOUSTON — Factory — Lawson & Armer Fabricating Co., plans construction of factory building to cost $75,000.

HOUSTON — Warehouse, etc. — Acme Brick Co., plans constructing office building and warehouse, cost $25,000.

LIBERTY—Carbon Black—Contract let for carbon black plant in Hardin oil field, seven miles north of Liberty for Roxberry Steel Co., New York City; cost $400,000.

LUBBOCK — Building — Contract is let for storage building for Lubbock Feed & Seed Co.; cost $24,000.

PORT ARTHUR — Abattoir — I. N. and Ben Liebling, contemplate erection of abattoir, Orange Highway; cost $74,000.

WACO — Bakery — Southern Main Baking Co., plans construction of bakery building to cost approximately $170,000.

WICHITA FALLS — Garage, etc. — Continental Oil Co., will construct garage and office building, cost approximately $10,000; work started.

WYLIE — Facilities — Contract has been let at $30,320 for refrigeration locker facilities for Collins County Refrigeration Cooperative.

VIRGINIA

LYNCHBURG — Station — Lynchburg Broadcasting Corp., Edward A. Allen, President, will erect $50,000 radio station.

NORFOLK — Building — Dependable Construction Co. will erect brick building for Auto Parts Supply; cost $18,000.

PETERSBURG — Plant — Tri-County Refrigeration and Service Company, acquired site for abattoir and freezer locker plant.

WAYNESBORO — Plant — E. I. Du Pont de Nemours Co., Wilmington, Del., will start work in August on two acetic acid recovery units; as addition to the chemical section of the plant.

WEST VIRGINIA

FOLLANSBEE — Expansion — Sheet Metal Specialty Co., plans $250,000 expansion; erect brick building; install presses, annealing furnaces, welding and other equipment.

HUNTINGTON — Development — The Truax-Traer Co. of Chicago, purchased 114 acres of river-front property at neaby Ceredo for post-war development of rail-river coal transshipment point.

Keep down Production Costs with

Tight Valves ON AIR, STEAM, AND WATER LINES

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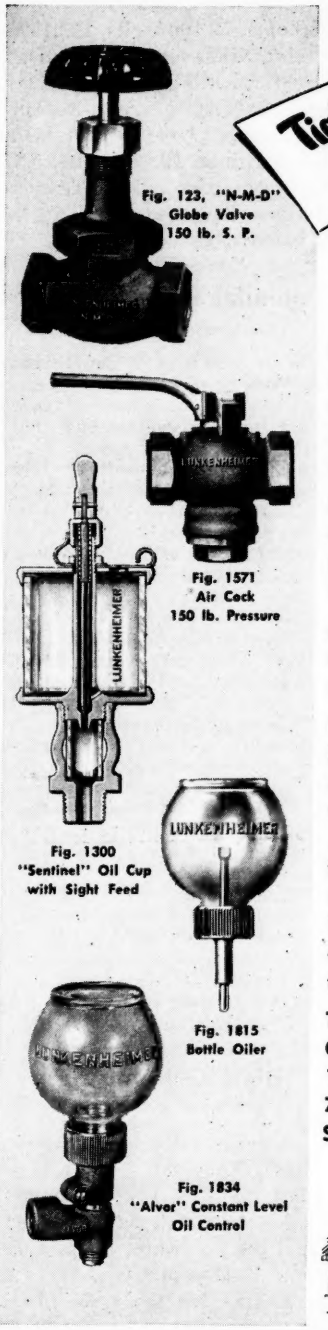

Fig. 123, "N-M-D" Globe Valve 150 lb. S. P.

Fig. 1571 Air Cock 150 lb. Pressure

Fig. 1300 "Sentinel" Oil Cup with Sight Feed

Fig. 1815 Bottle Oiler

Fig. 1834 "Alver" Constant Level Oil Control

Leaky valves, permitting the escape of steam, air, or water, are wasteful in themselves—doubly wasteful in their effect on production costs and operating efficiency.

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LUNKENHEIMER VALVES & LUBRICATING DEVICES

Oil Official Optimistic

(*Continued from page 54*)

formance indicates the volume will be substantial.

The estimate, moreover, does not take into account the possibilities of oil in areas not yet fully explored but underlain with strata in which geology indicates oil as a possibility. Discoveries of a vast additional volume of oil are likely in these areas in the future.

Among probable oil states, Tennessee holds promise of increasing its proved reserves. Expanded wildcatting is expected to produce valuable results in the section embracing Macon, Sumner, Jackson, Clay, Overton, Fentress, Campbell, Pickett, Scott and Clay Counties. Western Tennessee from around Nashville to the Mississippi River is known to be underlain with strata which are productive elsewhere but that have not been adequately prospected.

The state of Mississippi, a producer of gas and oil for a number of years, has recently broken into the heavy producing column with new wells in Yazoo County. Numerous structures have been mapped in the oil-producing trend in other parts of the state.

Recent years have witnessed increased interest in Alabama's oil possibilities. Gas and some oil has been already produced in Clarke County, most of which is now under lease for drilling along with adjacent Choctaw County.

In Florida, "shows" of both oil and gas have been found and additional test wells are being sunk. The southern portion of South Carolina and southeast Georgia which border on Florida are showing similar promise in excellent "shows" recorded in drilling logs. A well in North Carolina, Craven County, found a gas show at about 700 foot depth and another at 2,312 feet. In Virginia, a test well produced over 1,000,000 cubic feet of gas at the 3,272-foot level, and subsequent drilling in this and other nearby counties gave showing of additional gas and some oil production.

In those Southern states that have already established themselves as outstanding oil producers, exploratory drilling may be expected to continue, as in the past, to contribute further to the proved reserves of the nation. The *Blue Book of Southern Progress* shows that for the year 1943, oil production from the South was: Texas, 100,800 wells, 593,520,000 barrels of crude; Louisiana, 7,250 wells, 123,592,000 barrels; Oklahoma, 53,100 wells, 123,152,000 barrels; Arkansas, 3,150 wells, 26,600,000 barrels; Mississippi, 350 wells, 18,807,000 barrels; Kentucky, 15,000 wells, 7,883,000 barrels; and West Virginia, 16,900 wells, 3,349,000 barrels. Missouri and Tennessee, combined, had a production of 46,000 barrels from 110 wells.

Potential Texas Industries

(*Continued from page 53*)

best of its kind west of the Mississippi, Dean Woolrich said.

Very practical use is made of the study of soils, the Dean pointed out. For instance, a familiar phenomenon to engineers, but not to the ordinary layman, is the fact that soils expand when wet. Some clays in Texas expand 40 per cent—and the result often is a house which is "one-sided," or a bridge which has one end higher than the other.

"There are many other possibilities for development of this great state," Dean Woolrich said. "For instance, the aircraft industry, newsprint manufacture, and many products varying from milk to papayas and Davis Mountain apples have yet to be fully developed.

"Texas cannot expect to reach over into other states for new discoveries and inventions," the Dean said. "The research and development of Texas products is primarily one of Texas' own concerns, and the solution should be forthcoming from Texas laboratories.

"Whether we move forward in the next two decades in an orderly development of well-balanced home making with industry, agriculture and commerce completely integrated and coordinated rests upon the leadership of each village, city, county, and the entire state."

Big Charleston Ship

(*Continued from page 55*)

and American Machinery Corp., of Orlando, Fla.

Only by this procedure was it possible to construct a vessel the size of the Tidewater in the time alloted. Experience gained in subcontracting for the LSM program proved invaluable for the Tidewater construction.

The Tidewater is actually a miniature navy yard. When it is eventually assigned to duty with the fleet, it will operate with a destroyer group, and will be equipped to make emergency repairs of almost every description.

Four hundred and ninety-two feet long, with a beam of 70 feet, gross tonnage of 8,000, and a displacement of 17,600 tons when loaded, the Tidewater will carry a crew of nearly one thousand men—many of them skilled craftsmen who will operate the numerous repair shops on board.

Some idea of the many repair jobs which the Tidewater will be equipped to do can be gathered from a partial list of the shops that will be aboard her. These are: Optical and fire control; battery charging, gyro compass repair, storage battery, refrigerator, internal combustion engine repair, typewriter, heavy machine, light machine, blueprint rooms, print shop, boiler shop, pipe and coppersmith, sheetmetal, shipfitter, welding, electric, foundry, pattern and carpenter, and torpedo assembly.

Everything from a built in motion picture projector to a soda fountain has been provided for the comfort of the ship's crew. In addition there will be a cobbler's shop, library, bake shop, butcher shop, barber shop, and a large laundry.

Money to build the Tidewater was provided through the war bond purchases of the people of Charleston and the Navy Yard during the Sixth War Loan Campaign.

Rear Admiral Jules James presided at the launching ceremonies, and Mrs. Robert N. Scott Baker, wife of Captain Baker, USN, yard industrial manager, was sponsor. Representative L. Mendel Rivers, of Charleston, who headed a special committee of Congress sent to attend the launching, delivered an adddress.

June Cotton Spinning

The 17,324,402 active cotton spindles in southern mills were busy for a total of nearly 8 billion hours in June, an average of 441 per spindle. Mills outside the South showed activity of only 259 hours per spindle, with the New England mills slightly more active than in May. Tennessee's record stood at 452 hours per operating spindle, with Mississippi spindles in second position at 440 hours each.

Tar Heel Farm Lands Jump

Farm lands in North Carolina led the nation in increase in values during the past 30 years, according to the United States department of agriculture. Farm real estate worth $100 an acre in 1915 is now valued at $224, an advance of 124 per cent.

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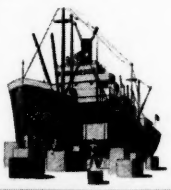

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Ingalls Awarded DSSA

The Ingalls Shipbuilding Corp., recently was presented the Distinguished Service to Safety Award, highest honor conferred by the National Safety Council, during ceremonies at the big Pascagoula, Miss., shipyards.

The award was presented and the coveted "S" flag, first to fly over a Gulf Coast Area yard and one of seven awarded shipyards throughout the nation, was raised just before the christening of the SS Sea Lynx, seventy-second all-welded ship for war launched by Ingalls in sixty-two months.

During the same celebration, Ingalls also received another safety honor—a certificate for "outstanding achievement in reducing the frequency of disabling injuries" during the Victory Shipbuilding Safety Contest.

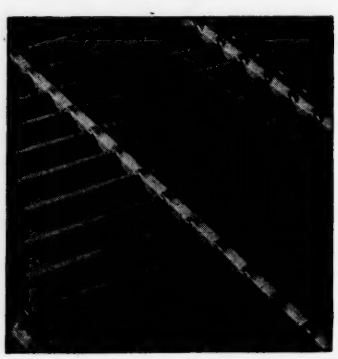
The 60 Million Jobs

(*Continued from page* 52)

We are talking long and loud about government's responsibility to see that the individual has a job, has a living. The only way the government can do that is by taking money away from the individual. The government never did and never can earn a dollar. The only money it can ever have is what it takes away from the individuals in taxes. Every tax eventually comes out of the ultimate consumer. It is perfectly obvious that money taken by government from the corporation or the individual must leave that corporation or individual in the position where he is less able to employ others or buy products himself. Every dollar that increases the ability of the government to give jobs decreases the ability of everybody else in exactly the same proportion. As a matter of fact, it is even worse than that since the ability of the individual or the private corporation is much greater than that of the government to accomplish any purpose with a given amount of money.

Government also does not have the same feeling of responsibility that the individual normally possesses. It is interesting to note that the government has collected many billions of dollars for social security from every corporation and most workers in the country. Not one dollar of this will ever be used for social security. The promise of the government in this regard will be made good by new taxes for the purpose. If an individual or a private corporation should do this, those responsible would end up in jail. Government, however, does not have this penalty.

It is obvious, of course, that if we become the serfs of government that we can be guaranteed a job, can be guaranteed social security and can be guaranteed any other advantage which government wishes to guarantee. However, the only place the money can come from for them to make this promise good is from the same citizens who are supposed to be benefited. The benefits will be definitely less than if the same job were done through private institutions, as we will find out over the years to come.



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This encroachment of government on liberty of the individual is not new. We have had it several times before. In each of those cases we have been able to throw off the governmental yoke. The present threat is more insidious than we have had before because theoretically a friendly government is offering us succor in our extremity. It is difficult for the average citizen, seemingly, to recognize the threat in this friendly gesture.

The Coast Guard

(*Continued from page* 49)

but the landing of men and munitions, establishing the beachhead under fire and the maintenance of open sea lanes of supply are included in their invasion routines.

The coming of peace will bring a respite for the military and naval services, but not for the Coast Guard. It will continue to fight—either outlaws or the vagaries of nature, so that our commerce may flow safely and continuously to the far quarters of the globe.

Railroad Reconversion

(*Continued from page* 48)

hundred years ago by the State of Tennessee intends, among other things, to reduce curves and grades between Memphis, Tennessee and Atlanta, Georgia. The project promises a two-fold advantage for the South. Southern people will be employed in the work, adding wage income of which a large portion will be spent for Southern products. And eventually better transportation service, both passenger and freight, will be available through heavier and faster trains operating at greater speeds and reduced hazards.

Typical of all southern railroads there can be seen no bitterness here over adverse freight rate decisions. The accent is on the privilege to serve with faith in American free enterprise to reward those who serve faithfully and efficiently. The spirit of southern roads, characteristic of all southern enterprise, is adequately expressed in N. C. & St. L.'s announcement of the program, which states in part:

"We love America and the American way of life. We love the South and all it stands for and has stood for—."

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LOS ANGELES

"Southern Cinderella"

(*Continued from page 47*)

soil without detour through an out-of-state intermediary. Cinderella Foods was created to make sure that Cinderella peanut did not lose her golden slipper.

Built up in 20 months, during which it hurdled the difficulties of war economy, the firm's plant facilities now employ hundreds of people and ship processed peanut products into 39 states.

The operating policy of Cinderella Foods is progressive. This policy holds that distribution and selling are prime factors in keeping America busy and therefore prosperous and happy. Studies disclose that one salesman on the average keeps 35 factory and administrative workers busy. The policy goes on the premise that, to succeed, business must offer for sale commodities that the public wants and will accept—must process these commodities into their most attractive form—and must tell the public about them in the most attractive way. The firm has entered wholeheartedly into a promotion and publicity project of the National Peanut Council.

Although the value of its manufactured products is expected to reach $4,000,000 in 1945 and it is recognized as one of the large producer-distributors of peanut butter in the United States, Cinderella Foods does not claim to fall into that class known as big business. Furthermore, it believes that its present status affords it some distinct advantages. While the characteristics of large and small firms are similar in fundamentals, smaller manufacturers enjoy the advantage of closer intimacy with both customers and suppliers. They are better able to keep their hand on the pulse of public likes and dislikes. The executives of Cinderella Foods also feel that in establishing a firm such as theirs, they are bringing about a sounder national economy through decentralization of industry. With the South looking forward to an era of more highly mechanized farms, and probably to fewer farmers, enterprise like Cinderella

(*Continued on page 76*)

Frozen Food Plant Rise Seen After War

(*Continued from page 45*)

operating in towns with populations of 5,000 or less.

Farmers, faced with many meat rationing restrictions during the war, have discovered the flexibility of locker plant operations, which include slaughtering, chilling, cutting, grinding, curing, smoking, lard rendering, packaging, labeling, quick-freezing, and storing of meats, and blanching, packaging, quick-freezing and storing of fruits and vegetables.

Such plants have proved a boon to hunters and fishermen whose prey formerly became in large measure spoilage and waste. Many sportsmen of the occasional or seasonal type have been able to convert their fish and game into a meat supply of months' duration for themselves and families through the services of locker plants. While this utility of the locker plants has been of outstanding importance in the war period, it by no means follows that such plants will be of less service after the war. Patrons have learned of the superior quality and flavor of quick-frozen fruits, vegetables, and meats over other methods of preservation, and are more and more eager to utilize such facilities as their expansion is permitted by the return of peace.

Many locker plants have not yet enjoyed their full scope of community service. Instead of mere storage spots where customers call, remove certain selected packages and depart, these plants will expand into community food centers offering a wide variety of services and merchandise.

In planning for postwar use of locker plant facilities in large cities, the association lists among advantages for urban families the opportunity for buying at low prices large quantities of top quality meat and other fresh foods that can be stored in lockers ready for use during every season of the year.

Available, also, to busy metropolitan families will be the developing locker plant feature of supplying ready-for-the-table delicacies such as chili, baked beans, chop suey, pies, cakes and pastries, soups and

(*Continued on page 76*)

Stealthy Power Grabbing

(*Continued from page 44*)

from the Great Lakes to the Gulf of Mexico, with no state, city, hamlet or farm left free from their influence and control.

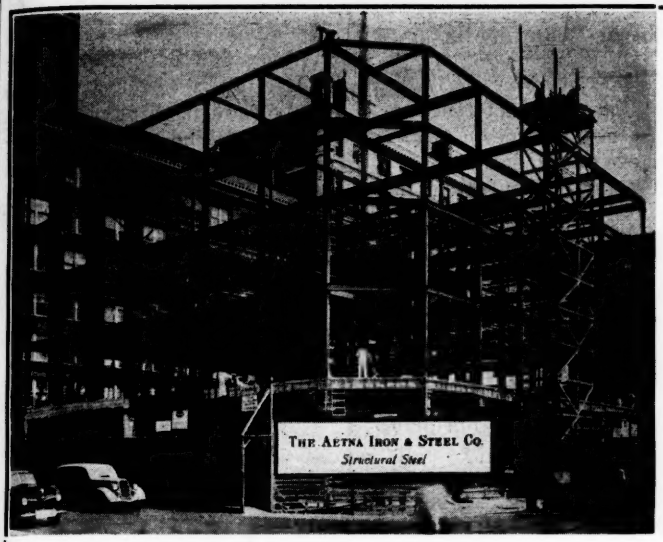
What next? What will follow in the train of agencies, bureaus, corporations and authorities? That there will be a next can scarcely be doubted. The grab for power is like a snowball, gathering size in whatever direction it rolls. When the fruits of one direction are exhausted grabbing minds will not fail to discover another.

The time has come when the people of the United States must make up their minds. Within their hands, and there alone, lies the power to prevent grabbing for power. The decision rests with them and should not be delayed—not even till the end of the war. It is not a question that is vital for victory. Wartime controls are entirely distinct from the issue. They will go on until the war is won and a safe peace established. But revolutionary legislation should not be permitted to pass under the pretext of war emergency. Pretext and propaganda have too often concealed the true purpose of power grabbing.

Take the Federal income tax for instance. Here, perhaps, was the forebear of all grabs. Here was the case of a power originally delegated to the states being demanded and grabbed by the Federal government through an Amendment to the Constitution. The accomplishment itself is less significant than the means by which it was achieved. The people of the United States were not told that subsequent levies might someday take 90 per cent of their earnings. Instead, the prevailing opinion was that levies should never be permitted to exceed much over one per cent. Once the grab is successful, the snowball begins.

More recent examples are seen in the efforts of a section of Congress to rob the states, through Congressional resolution of all lands beneath tidewater and navigable water, including submerged lands within the three-mile limit. While this grab has not yet accomplished its purpose it is well worth watching. The grabbers have not re-

(*Continued on page 76*)



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Stealthy Power Grabbing

(*Continued from page 74*)

nounced their intentions.

It is hard to indict a people when their fault lies in being mulcted by those in whom they have placed their faith and from whom they are entitled to expect conscientious adherence to the purposes for which they were given high offices. But the people of the United States must assume the fundamental responsibility for the protection of their own rights and those of their states.

Frozen Food Plants

(*Continued from page 74*)

other prepared food items.

Tomorrow's urban locker plant may be a combination retail store, commercial frozen food distributor, processing plant, ice-plant, and dehydrating plant. In addition, locker plant operators plan to distribute and service home storage units. Most widely accepted of these units, they believe, will be models designed for storage only of foods already frozen at the locker plants.

Southern "Cinderella"

(*Continued from page 74*)

Foods could mean the difference between prosperity and mediocrity.

With an eye to that era, plans are already under way for further development of Dawson's manufacturing facilities. The peanut butter plant of Cinderella Foods is currently installing new, completely automatic equipment for conveying, roasting and packing purposes, which will greatly increase the capacity of the plant. A building has been completed for a salting plant to get into operation later in the year. Two railroad sidings are being extended to facilitate shipments and unloading of incoming material. Other additions are planned for the future. These include a large candy factory, a mayonnaise factory, oleomargarine factory and cooking oil refinery.

Interwoven with all these plans is a generous program of research. As Mr. Stevens says: "We hope to manufacture every food item that can be made from peanuts. Back of all our plans is an effort to do a good merchandising job in order to pay our farmers a decent price for their raw material, and we feel that this can only be done through research and the right kind of publicity."

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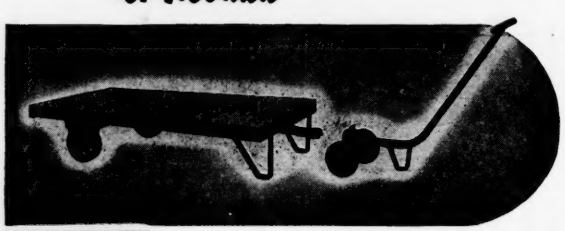

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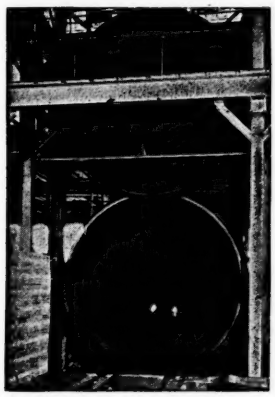

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RAMIE—Miracle Weed

(*Continued from page* 43)

30 inches below the surface and 12 to 15 feet apart by drawing a 6-inch bullet-nosed cylinder through the "good earth," sweeping completely across the area to be planted. "Moling" is done when the water table is below the depth of the 4½-inch holes; and these mole drains afford the desired service for a duration of 5 to 8 years. Farm ditches are cut at right angles to the mole lines which empty into them — such ditches being 4 feet deep with a bottom width of 2 feet.

Ramie is a perpetual plant—only planting being necessary. Its root system is three-fold—(1) a tap root going down about 18 inches to quench its thirst for water; (2) a feeder root thrusting itself down into the ground as a means of supplying the plant with food; (3) the plant reproduces by underground stems, comparable to horse radishes and red raspberries. The plant has small lace-like blossoms as small as mustard seed. During the first year of growth it develops a root system and produces a crop. The second year, there are three crops — the plants being cut when about 5½ feet high. A mature yield may be expected every 70 days—equivalent to four crops a year, barring the possibility of a blighting frost. Even on the reasonable basis of three crops each twelve months, the production per acre would be 1,500 pounds with the farmer realizing a gross income of $400.00 an acre annually. Planted only once in a lifetime and cultivated during the first year after planting—this wonder weed, the magic carpet of American agriculture and industry—may be a boon to incapacitated men returning from battlefields with impaired faculties and thus unable to perform hard manual work.

To start a crop of ramie, sections of roots 4 inches long, each having several "eyes," are set in rows 4 feet apart and 2½ feet distant from each other in the row, and then covered with soil to a depth of 2 inches. Normally, these roots burst into life in two weeks from planting the crop, and in ten weeks are ready for cutting. As a means of establishing a strong stubble producing very heavy canes before stripping the fiber, the first crop is usually rolled down, or cut and left to produce humus on the land. Promptly, the stubble sprouts again and in the muck lands of the Florida Everglades the annual yield, after the first year, is a ton of dry, non-degummed fiber per acre, three cuttings, one being sacrificed to frost, with this loss being compensated for by subsequent heavy cuttings. When the stalks turn they are ready for harvesting, and at that stage, in the Everglades, the ramie weed varies from 5 to 8 feet high, including about 12 to 30 inches of tops, succulent feed for livestock. The crop is harvested in a conventional John Deere reaper, followed by an International "pick-up" binder, such as that used in harvesting hemp.

The binder delivers stalks in 50 to 60-pound bundles, hauled to a central location where the plants have their fibers beat out by a new machine at a terrific rate of 400 licks

(*Continued on page* 80)

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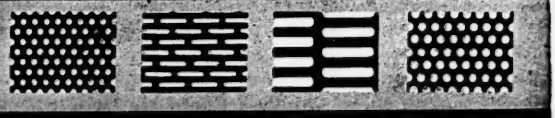

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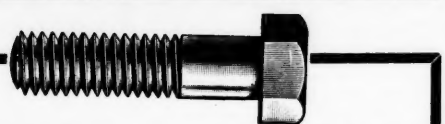

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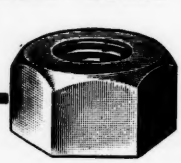

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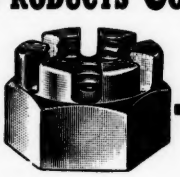

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RAMIE—Miracle Weed

(*Continued from page* 78)

per second. The juicy tops of the plant, together with the leaves, are cut from the stalk mechanically and dried for use as feed for dairy and beef cattle; these tops being rich in protein. An analysis of this stock feed breaks down as follows: Commercial protein, 25 per cent; fats, 7.5 per cent; ash and lime, 4.5 per cent. Three tons of dehydrated cattle feed may be expected from each acre of ramie, with a market value of $70 per ton.

Comparable to the versatile soybean in its diversified products and uses, the ramie fiber is serving the exigencies of war today; tomorrow its unfoldings of peacetime products will amaze a people ordinarily callous to the magic of chemistry, the ingenuity of the American manufacturer, in transforming raw materials into useful commodities. This rosy prediction of the magic unfolding of ramie has ample support in the intrinsic qualities it possesses; it is strong, wears well, is unshrinkable, 30 per cent stronger when wet, absorbs 25 per cent more moisture, resembles silk but is many times stronger, can be laundered and dry-cleaned—one ramie shirt having been laundered 72 times, each laundering increasing its brilliance. In tensile strength ramie is three times that of hemp, four times that of flax.

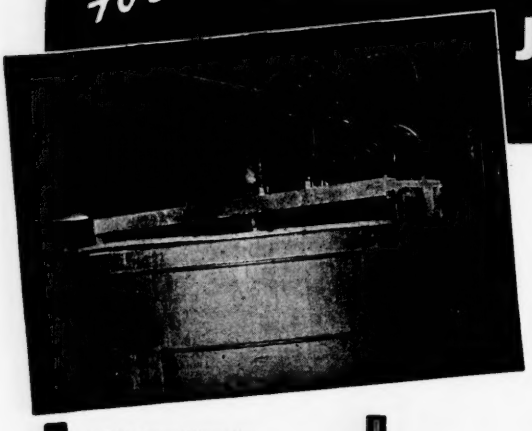
War-time applications of the fiber are: England using it for parachute cordage and harness; also as fire hose and flexible water mains in fighting conflagrations touched off by buzz bombs. It is also serving as strategic war materials as propeller and marine packing by the U. S. Navy. As marine packing it seals the stern tubes of ships to prevent sea water from backing up along the small drives. Other possible service to which this fiber is comitted in the exigencies of military conflict, include: Uniforms, tarpaulins, tents, duffle bags, hammocks; also, as laminated plastic for aircraft parts.

Peacetime uses of ramie fiber, according to W. B. Simons, fiber expert, are sufficiently comprehensive to embrace anything that can be made from silk, including shirts, dresses, hats, hose, hammocks, belting, brake linings, automobile coverings, marine cordage, fish lines, nets, certain types of rope, upholstering materials, curtains, and heavy textiles. By-products, other than livestock feed, are cigarette paper, writing and wrapping paper. This fabric is from 30 to 60 per cent stronger when wet than dry, and withstands any exposure to dampness and mildew.

The writer who penned the line "An ill weed grows apace" should revise his sweeping conclusion when contemplating the weed from which stems the ramie fiber. This weed, too, grows riotously but instead of being an "ill" one it promises to be a boon to mankind, thus dispensing some of the ignominy associated with weeds that plague—even so since Biblical times of the tares in the wheat.

For driving agitators, mixers and similar equipment—

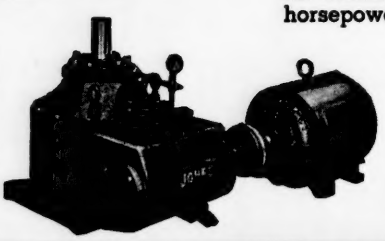
JONES WORM-HELICAL SPEED REDUCERS



HERE is a line of machines that fills a long felt need for double reduction units of the fully enclosed type to be used for agitators, mixers, etc. requiring a vertical shaft drive.

Many of these Jones units have established excellent performance records in a wide variety of service. As a result of that experience a complete standard line has been developed covering 15 standard ratios ranging from 40 to 1 to 250 to 1 for all common motor speeds and a wide range of horsepower ratings.

• This Jones Worm-Helical Speed Reducer on a lacquer agitater is typical of the wide range of services for which these drives can be used such as ore roasters, pulp tank mixers, furnaces, bending rolls and similar applications.



The new Jones Bulletin No. 75 covers complete details on these new Worm-Helical Speed Reducers, with rating tables, dimension diagrams, torque charts and other application information. We shall be pleased to send you a copy.

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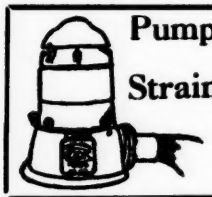
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Surplus Property Listed In Government Booklet

Approximately 3,000 items of government-owned surplus property which the Reconstruction Finance Corporation handles as a disposal agency designated by the Surplus Property Board for capital and producers' goods are listed in a booklet, "How To Do Business With RFC," which was recently published by RFC, Charles B. Henderson, chairman of the Reconstruction Finance Corporation, has announced.

The wide range of surplus items covers the broad classifications of aircraft, industrial plants, and capital and producers' goods. Any individual or company interested in acquiring RFC-handled property is advised in the booklet to contact the nearest RFC Agency. There are 31 located throughout the United States.

Directory of the United States Commerce Department's Regional Offices of Surplus Property serving the sixteen southern states. Surplus properties available and information relative to them may be had by addresing regional offices. These are:

Alabama: 105 Pryor St., N. E., Atlanta 3, Georgia.
Arkansas: P. O. Box 1407, Fort Worth 1, Texas.
Florida: 105 Pryor St., N. E., Atlanta 3, Georgia.
Georgia: 105 Pryor St., N. E., Atlanta 3, Georgia.
Kentucky: 704 Race St., Cincinnati 2, Ohio.
Louisiana: P. O. Box 1407, Fort Worth, 1, Texas.
Maryland: 1126 21st, N. W., Washington, 25, D. C.
Mississippi: 105 Pryor St., N. E., Atlanta 3, Georgia.
Missouri: 2605 Walnut St., Kansas City 8, Missouri.
North Carolina: 105 Pryor St., N. E., Atlanta 3, Georgia.
Oklahoma: P. O. Box 1407, Fort Worth 1, Texas.
South Carolina: 105 Pryor St., N. E., Atlanta 3, Georgia.
Tennessee: 105 Pryor St., N. E., Atlanta 3, Georgia.
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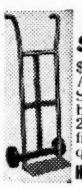
Virginia: 1126 21st St., N. W., Washington 25, D. C.
West Virginia: 704 Race St., Cincinnati 2, Ohio.

Orders 250 Box Cars

The St. Louis Southwestern Railway Co. has placed an order for 250 50-ton steel box cars with the Mt. Vernon Car Manufacturing Co., a division of H. K. Porter Co., Inc.

DODGE SUPPLEMENTS NO. 42 CATALOG
The No. 42 Dodge catalog is now supplemented by bulletin A-242 which is self-glued for pasting in the front of the catalog. Dodge Manufacturing Corp. has announced from its main office in Mishawaka, Ind., that the bulletin features the timken type "E" pillow block, and the rolling grip friction clutch.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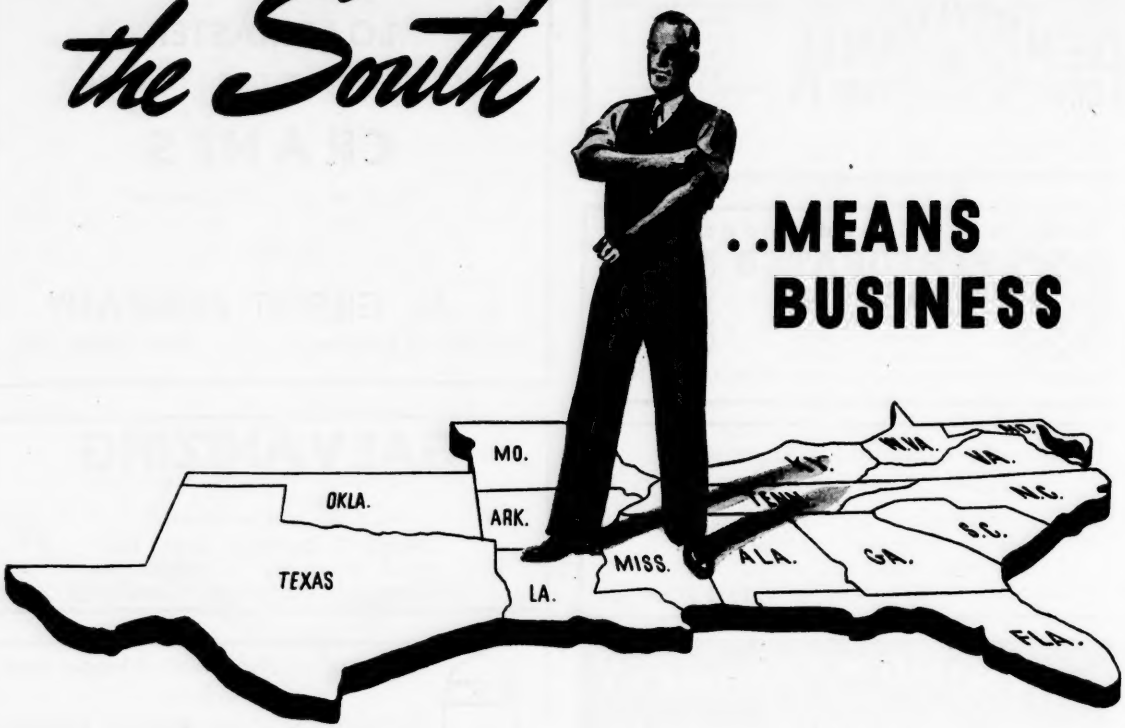

Yes, the South means business. And there's a double meaning in those words. For as Southern industry develops and expands, it means valuable business for those who cultivate this rich market.

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